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GRADUATE EDUCATION IN ANESTHESIOLOGY

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Logic and experience have brought the conclusion that a medical teaching institution must change its prescribed methods of instruction occasionally. Institutions attempting to provide educational exercises in anesthesiology to meet the needs of potential specialists in this branch of practice have found that such changes are required frequently.

There are good reasons for the many alterations in procedure of teaching anesthesiology, originating from the errors of the past, the pressing need to keep abreast of current developments within the specialty and the task of meeting the requirements of the unprecedented advances of surgery. Other circumstances have complicated the efforts to establish and maintain adequate educational facilities to meet the increasing needs of anesthesiology. New drugs and methods have been accumulated rapidly, the scope of practice has been enlarged and the acute shortage of competent teachers has become pointedly evident. These considerations have served to confuse those who have taken the initiative in planning the development of the infant specialty. They have forced frequent evaluation and reevaluation of methods for teaching, many changes and no immediately predictable solution to many problems.

The serious study of teaching philosophies and technics in anesthesiology as well as in other intellectual disciplines necessitates an appraisal of past methods, a critical evaluation of present habits and an imagination which can anticipate the needs of the future. Inquiry into the early development of the specialty presents a valuable guide in understanding how things came to be what they are and in determining the errors that have been handed down ensconced in the protective halo of "tradition."

DEVELOPMENT OF THE SPECIALTY

In the earliest days of anesthesia the art of administering ether, chloroform and nitrous oxide was considered knowledge that was a mysterious property of the possessor and, of course, teaching was nonexistent. Gradually the concept that the management of anesthetic drugs was not a personal attribute but a legitimate phase of the care of surgical patients was acquired. The preceptor system was then inaugurated rather sketchily and spontaneously in the manner of the other branches of medicine. However, it seems apparent that little or no effort was made to do anything more than "pour ether." Our surgical forebears practicing at the turn of the present century can be forgiven readily if they considered this type of anesthesia as unworthy of and not requiring the skill of a physician. When anesthesia became purely a technical exercise requiring no judgment and moderate manual dexterity the utilization of anesthetic drugs was properly the province of technicians. Nurses were the logical personnel for this task and they were trained by physicians and then by one another in the technical aspects of rendering patients unconscious for surgical manipulations, a type of teaching that has persisted to the present, although its position in modern medicine is an anachronism. Despite the ascendency of the technician, anesthesia was not completely abandoned by the medical profession, but the quality of the efforts of physicians was highly unsatisfactory. The general practitioner not infrequently became an anesthetist either for want of some one better trained or more often as a means of supplementing an inadequate income. His interest in anesthesia was consonant with his skill as a rule, reflecting discredit or apathy on anesthesia as a special practice in medicine. The young physician member of the hospital house staff was no improvement over his elders. Anesthesia in some hospitals was delegated to the least experienced intern, who learned what little he could from his predecessor, greatly relieved to relinquish his undesired assignment. There is small wonder that understanding of anesthetic problems languished under such circumstances and that surgeons were more comfortable with a nurse performing anesthetic tasks. At least she didn't regard her work as an unwanted chore!

In the second decade of this century physicians with a prophetic interest in anesthesia emerged on the scene. These men learned anesthesia by actual performance in the operating theater, by careful observation of the responses of patients and by logical deductions based on their own experience. When clinical observations were inadequate in coping with practical or theoretical problems, assistance was requested and obtained from the laboratory. The value of scientific research was grasped quickly and produced the understanding that the infant specialty had tremendous potentialities for the improved care of patients, the acquisition of knowledge of biologic processes, the methods of their modification by drugs and a worthy intellectual discipline per se.

However, it can scarcely be stated that the first American anesthesiologists, in the full sense of that word, were taught anesthesia in any fashion approaching orthodox pedagogic principles. Rather must it be emphasized that they learned of themselves. This group became the first self-proclaimed specialists in anesthesiology, and the specialty owes them much for their contributions and more particularly for their interest in

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establishing anesthesia as a science and indoctrinating others with their habits of thought as well as the fruits of their knowledge.

In the era when modern anesthesiology took root, teaching was still very primitive. The attitude toward training was exceedingly naive. It was still considered adequate to have a student spend a few weeks with a preceptor or in a short course which was entirely devoted to the mastery of agents and other equipment in the operating room. To put it baldly, physician anesthetists were trained as technicians still, despite the fact that they were graduates in medicine and presumably were qualified to think in scientific terms and exercise clinical judgment.

THE WORK OF FRANK H. MC MECHAN

Although the practice of anesthesiology in some areas was vastly improved much earlier, systematic educational efforts are very recent and not widely adopted. Probably the earliest significant effort in gaining recognition for anesthesia in medicine was that of Dr. Frank H. McMechan, who organized a group of physicians interested in the specialty in the second decade of this century. The organization, which later became national and finally international in scope, together with its publications, is a permanent tribute to the tireless skill of Dr. McMechan in establishing anesthesia as a science and teaching it to younger physicians. The subsequent organization of the American Society of Anesthesiologists on a national scale represented the gathering of like minded physicians to further anesthesiology as a specialty. The educational consequences of this type of organization were readily apparent. Physicians exchanged information and experience about anesthesia informally and in the dress of meetings where information was formalized in the clinical or scientific paper. The publication of the journal *Anesthesiology* by the society provided additional educational opportunities. The establishment of the section in the American Medical Association and the inception of the American Board of Anesthesiology served to focus attention sharply on the necessity of requiring definite standards in knowledge and ability as prerequisite to the approved practice of the specialty. The participation of the Council on Medical Education and Hospitals in the problem of training physicians in the specialty proved a great aid. Residencies were approved for teaching after careful investigation of their facilities. Standards in teaching were therefore elevated, and the prospective anesthetist had available to him the information he required when he sought graduate instruction. The implications for the education of the future anesthetist became clear in principle, although the actual methods of providing this training were and are still decidedly fluid in character.

IMPORTANCE OF THE RESIDENCY

The principle established in the teaching of anesthesia by the standards set forth is founded in the residency, the prototype of graduate education in all other clinical specialties of medicine. Although the system of resident training is well established in all special branches of medicine, its true purpose and the position of the resident are frequently confused. The residency, when properly designed, consists of a careful instructional program which is destined to inculcate into the student independence of judgment, adequate theoretical knowledge and consummate technical skill. This is not a preceptor type of training in that the resident does not learn by imitation of his teacher or necessarily follow in his footsteps. He is taught all aspects of anesthesiology, with particular stress on the concept that his specialty is dynamic and that the procedures of today may be entirely changed tomorrow. If his education is such that flexibility and imagination become incorporated into his professional development, he is a fit product of a good residency. It must be emphasized decisively that the residency or the fellowship is fundamentally and primarily an educational experience for the incumbent and is not designed chiefly for the functioning of a department or even the care of patients in a hospital. These are necessary by-products of the residency but not the essence of its character. It is, of course, mandatory that a residency provide suitable clinical material for instruction and experience and also indoctrination in the basic sciences related to anesthesiology that is thorough and secure.

Much lip service has been rendered to the teaching of the fundamental sciences and little has in actual practice been performed. It has been stated in a careful and painstaking survey of graduate medical education [1] that these requirements can be met effectively by universities or by hospitals or groups affiliated with colleges of medicine or conducting medical programs on the same plane of scientific activity. The graduate of a residency conducted as an educational project will be a specialist of good clinical judgment, proficient technically and endowed with either an appreciation of the fundamental sciences or actual research experience in these fields. Unless the residency system can produce this type of specialist, it has failed in graduate medical education.

INSTRUCTION DURING THE WAR

The entrance of the United States into World War II seriously altered the entire philosophy of teaching in anesthesiology so radically that the full implications are not thoroughly grasped even today. The residency system was disrupted in its major aspects by the needs of the armed forces for medical personnel, and even so the supply of anesthesiologists was wofully inadequate. To meet the emergency, instructional plans were instituted in various military hospitals and in several universities and medical centers. Medical officers were assigned as students for periods ranging from several weeks to months. Most courses were given for three month periods. Even under ideal circumstances this type of training could not, by present standards, be sufficient for the development of specialists in anesthesia. It is to the credit of the officers graduated from these courses and their teachers that anesthesia practice in military life permitted the medical department to discharge its mission, but the training and ensuing professional activities were essentially stop-gap procedures. There is little doubt, however, that interest in anesthesia developed in many of these students and their surgical confrères if one can judge by the rather large number of veterans who have sought more thorough instruction in anesthesia after discharge from the services.

1. Graduate Medical Education, Report of the Commission on Graduate Medical Education, Chicago, University of Chicago Press, 1940.

POSTWAR DEVELOPMENTS

In the postwar period the teaching of anesthesiology requires enormous versatility because of the manifold and divergent problems which are unsolved. The training of veterans who obtained their initial experience in the specialty in military service is an obligation which cannot be ignored by teaching institutions, and this is a task of tremendous proportions. Closely correlated with the indoctrination of individuals in anesthetic skills is the moral requirement to furnish competent anesthesia to patients in veterans' hospitals. Fortunately, the professional control of many of these institutions is supervised by medical schools and their faculties, with the possibility of conducting adequate teaching programs for the physicians on full time basis in the Veterans Administration. Great care must be exercised, however, in providing much more than the perfunctory stamp of approval by a university faculty in the veterans' or military hospital. Teaching on a par with academic standards is a goal which must be attained.

American anesthesiologists are also confronted with the necessity of thinking in global terms perhaps more than our colleagues in other specialties, since the extended development of anesthesia is not worldwide. Knowledge of even basic tenets in anesthesiology is absent on much of the European continent and in the Orient because of the devastation of war and the prolonged period of domination of European medicine by the sterile Nazi philosophies. It seems necessary that provision be made within the framework of the pertinent United Nations committees and directly by American teaching centers for the training of many foreign physicians in anesthesiology in the United States.

It is clear, then, that the coming of age of anesthesiology, the great demand for competent specialists and the appalling shortage of qualified anesthesiologists necessitate a program of training which must be wider in scope than anything planned heretofore. The opportunity for a satisfying and mature professional life in the specialty demands groups of students of a caliber equal to that in other branches of medicine. Many more residencies on the graduate level, in the full sense of that word, are required to discharge these obligations. Of necessity the colleges of medicine and other teaching medical institutions will not have fulfilled their responsibilities completely until satisfactory teaching activities are established for anesthesiology and other specialties in which the demand overwhelms the possible supply. This situation will exist for the foreseeable professional lifetime of most of us.

THE TRAINING AT NEW YORK UNIVERSITY

The responsibility for training anesthesiologists has been keenly felt and willingly accepted at New York University in collaboration with its affiliated hospitals. From the residency in its simplest form and with a handful of incumbents, the department has grown in numbers and stature to include educational opportunities for graduates in medicine in keeping with the attitudes developed as the specialty grew. It is necessary to point out that teaching plans do not burst on the horizon in full bloom but are the results of painstaking and frequently painful evolutionary experiences.

The residency has been and will undoubtedly continue to be the bulwark of graduate education as we understand it. Residents are carefully selected on the basis of previous achievement as undergraduates and interns and an estimate of their probable abilities in anesthesiology. The process of selection cannot be overemphasized if physicians of real ability are to be educated on a graduate level. The resident is taught all varieties of clinical anesthesia, nerve blocking and inhalational and parenteral therapy under competent supervision for two years in most instances and three years for others who show promise of conducting independent investigations or becoming directors of hospital departments. Students whose interests and achievements point to academic work are affiliated with the department for longer periods. Most of the residents are intimately associated with at least one investigational project being conducted by members of the permanent staff of the university. At the present time there are twenty-seven physicians receiving such graduate training in the hospitals affiliated with New York University.

An extremely important technic of graduate education is the staff meeting or staff conference. The department conducts two such meetings weekly. The elder and more firmly established of these is an evening meeting which is open to all interested physicians in the community but is designed primarily as a teaching experience for the resident staff. The agenda are arranged by a senior resident and the meeting is conducted by the director. An important paper of interest to anesthesiology is presented by a resident, and discussion is carried on by the director. Current cases of interest are then described by the residents, and comments and criticism emanate from the resident staff, the director and members of the university faculty. Discussion is lively and often controversial. Exposure to and participation in this type of scientific conclave is valuable to the resident staff in the acquisition of new knowledge per se, the airing of opinions of physicians of greater experience and in learning the technic of organizing case material and presenting it to a critical and well informed audience.

The other weekly exercise is more recently established and is for the resident staff exclusively. It occupies three to four hours and is arranged by the students under the supervision of a member of the university faculty who attends the meeting as a moderator and guide to discussion. Approximately half the meetings are devoted to the maintenance of a Journal Club, which includes all the basic science and clinical periodicals related to anesthesiology. Each resident summarizes, for the group, the papers of interest and importance to the specialty, and questions and discussions are enjoyed freely. Since the atmosphere is extremely informal, all points of issue are elaborated on thoroughly. This period also serves as a medium for ward rounds, radiographic review of interesting films, the review of topics and problems of concern to the residents and the demonstration of new or difficult technics in nerve blocking or other phases of anesthesia.

In addition to the residency program for the training of specialists the Department of Anesthesia includes in its activities an extensive postgraduate course of instruction for physicians already engaged in anesthesiology. The course was originally designed to meet the needs of physician veterans whose specialty education was abbreviated by the war or whose instruction had been substandard because of the disruption of teaching facilities during that period. It became evi-

dent, with early experience, that this educational project was flexible enough to provide practicing or prospective specialists with information of the newer advances in anesthesiology and the pointed relationship between the basic sciences and clinical anesthesiology.

The major course of didactic instruction is conducted five afternoons a week for a period of six months. The teaching load is carried by the regular members of the faculty of the Department of Anesthesia except for occasional lectures by distinguished leaders in medicine whose special field of endeavor has definite bearing on anesthesiology. The avowed goal, prior to the first course, was thorough indoctrination in the basic sciences and in clinical anesthesiology, but the technic of presentation required a willingness to experiment and attempt new teaching technics. The well established approach to teaching one science after another in rotation with appropriate text assignments was abandoned as unsatisfactory in principle for postgraduate students. The possibility of enlisting the assistance of the preclinical faculty was seriously considered and unsuccessfully tried. It is the firm conviction here that the teaching of fundamental sciences to anesthesiologists is appropriately the sphere of the Department of Anesthesia, since the teachers are competent to sort material properly and are able to avoid the morass of a maze of details which, important to the scientist, need application to clinical anesthesiology. The burden in man-hours for the clinical faculty is greatly increased but well worth accepting as judged by the student development in accord with the best tenets of anesthesia.

BASIC CONCEPTS

The philosophy of teaching this course is based on the assumption that postgraduate students are mature persons and desire primarily to learn anesthesiology. For that reason textbook assignments are not made, but material of importance in the form of review articles and current scientific papers which pertain to the subject under consideration is suggested. It was most interesting to discover how frequently and effectively students became familiar with this type of study.

The actual teaching program includes lectures, laboratory exercises, seminars, demonstrations, a thesis and all the other accepted pedagogic methods, but the organization of instruction is a new departure here. Clinical lectures and discussions occupy approximately half the course and are deliberately interspersed with the related basic sciences. For example, the subject of pulmonary pathology is juxtaposed in time to a clinical consideration of atelectasis. The breaking down of what, in the final analysis, are artificial boundaries between fundamental sciences and the clinic is completed in this manner. The student quickly grasps this concept and realizes early and adequately that he is learning material which has definite application in his thinking and his work rather than simply a necessity for the passing of board or other examinations. Not only is his appreciation of scientific material enhanced, but he is taught in this manner to apply the information and the habits of thought of the scientist to his clinical problems. More concisely stated, anesthesiology is presented as an integrated discipline in which the basic sciences are really embraced and not merely worshipped in the far and traditional distance.

It is perhaps necessary to illustrate in greater detail the precise manner in which the material is presented, because of its differences from orthodox pedagogy and for the possible interest of others responsible for teaching programs in anesthesiology.

The first week is devoted to a serious effort to gain the students' interest and is the reason for introducing the dramatic elements in anesthesia practice at the outset. The subjects of hemorrhage, sudden death in the operating room, delirium and the problems of the aged are dealt with in clinical fashion and are illustrated by a large number of actual patient problems and anesthetic records pertinent to the discussion. The form of teaching these subjects is panel in type, with all members of the faculty as participants. This type of presentation in the introductory week has achieved its purpose in setting the tone for the remainder of the course.

The second week is concerned with the theories of narcosis, the fundamentals of simple inhalation technics, the anatomy of the respiratory tract, the signs of anesthesia, and instruction in the proper use of the medical library.

The third week develops this material in that physiologic and biochemical concepts of respiration are presented together with clinical disturbances related to respiration, such as hypoxia and cyanosis. The clinic is further emphasized in the consideration of resuscitative procedures. Thus anatomic, physiologic and chemical facets of respiration are woven together on the clinical loom.

The fourth week completes the pulmonary material in consideration of special respiratory problems of obstruction and serves to introduce the discussion of the endotracheal catheter as an airway. This period introduces the guest lecturer. The week is rounded out by the presentation of several classic papers in the literature with biographic sketches of the authors.

The fifth week is concerned with the teaching of spinal and epidural anesthesia, its clinical aspects being freely coordinated with the pertinent neuroanatomy and neurophysiology.

The sixth week is largely devoted to metabolic considerations, including the applications which disturbed metabolism have to anesthesiology. A day of physical chemistry in which the gas laws are delineated completes the week.

The physiology of the circulation is considered in the seventh week and is discussed in connection with disturbances in cardiovascular activity which may occur during operation or as the result of the action of anesthetic drugs. Special cases are also considered in detail. The management of refrigeration, patients with diaphragmatic hernia and barbiturate intoxication is included.

This philosophy is followed throughout the twenty-four weeks of the course, and the organization of subjects is maintained in similar fashion until the entire scope of the specialty and its related sciences has been considered. Student initiative is encouraged in the second half of the course in the form of student planned and executed seminars and the writing of a thesis.

In a course which is both clinical and scientific, it may be of interest to categorize the time assignments given over to the various sciences, special activities and clinical subjects. Physiology receives 30 hours, pharmacology 24, anatomy 24, pathology 14 and chemistry 7. Animal laboratory exercises in pharmacology

are given 16 hours, physiology 14 hours and cadaver dissection 30 hours. Some 15 hours are devoted to seminars and reviews, which are conducted by the students and the entire anesthesia faculty as a joint enterprise. Occasional informal hours are planned for question periods, discussions on economics and other projects. These usually total 4 hours. Approximately 150 hours are devoted to the clinical aspects of the specialty.

Although this course was planned as a postgraduate exercise, experience with it has been such as to consider it a necessity for the residents in addition to its first conceived function. The admixture of postgraduate students and residents in a single course has been a profitable one for both groups and the university faculty.

Thus far this discussion has been confined largely to the urgent problem of training anesthesiologists *de novo*, but instructional demands on teaching institutions extend to the postgraduate level, which, in effect, is equivalent to satisfying the educational needs of physicians who are already practicing the specialty. All of medicine is fluid, and newer advances require periodic opportunities for reorientation, the appreciation of changing points of view of the leaders in the various fields of medicine and exposure to improved scientific and clinical developments. Short courses in various aspects of anesthesia of several weeks' duration are adequate if specialists are encouraged to participate enthusiastically as teachers and students, depending on their interests and qualifications.

An example of such a course here is one in regional anesthesia. It is intensive and is given for three weeks semiannually. Included are cadaver dissection, practical instruction on patients in nerve block procedures and complete didactic coverage of diagnostic and therapeutic nerve block. This course is designed for anesthesiologists and others who desire special training in regional procedures. In this course also the discussion and lecture material is closely correlated with the dissection and is applied directly to appropriate patients.

At the present time the postgraduate division of the Department of Anesthesia has had experience covering two academic years. The impression has not been gained that the ideal in graduate or postgraduate education has now been achieved. Improvement and change will always be incorporated in the attitudes of the faculty, and educational errors, when found, will be eliminated. The types of training and teaching that have been outlined are most encouraging in achieving the ends desired—a group of physicians who have learned to look on anesthesiology as a highly developed clinical art which rests on a firm scientific foundation, the constituents of which they are able to evaluate critically and to which they can perhaps even furnish contributions of value.

The attitudes toward the education of anesthesiologists presented in this discussion are based on the advantages afforded by medical schools which are oriented sympathetically toward the development of the specialty. It is in institutions of the university classification that adequate library possibilities, abundant clinical material, opportunity for laboratory experience and the academic atmosphere may be collected for the benefit of the student. It is the obligation of these institutions to provide graduate education in anesthesiology.

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PROGRAM FOR THE ACTIVATION OF NEUROLOGY UNDER THE VETERANS ADMINISTRATION

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A year ago Percival Bailey [1] in his chairman's address to this section presented factual data to demonstrate the present ills of neurologic practice and recommended, among other things, that neurologists leave most of the practice of psychiatry to psychiatrists and that neurology become more closely alined with its related basic sciences and with neurosurgery. Whatever the prevailing opinion might be concerning the feasibility of a separation of neurology from psychiatry (at least for the time being), it is evident that Dr. Bailey's paper portrays objectively the present critical state of clinical neurology and may well serve as the landmark for a renaissance in the practice of neurology by neurologists.

Two questions come immediately to mind in evaluating the present status of and the future outlook for clinical neurology, namely: 1. Is there an actual need for clinical neurologists in the diagnosis and treatment of nervous and mental diseases? 2. If such an actual need exists, are neurologists as a group prepared to formulate and back a positive program in order to induce more bright young men to join their ranks?

We are not qualified to state the need for clinical neurologists in civilian practice. This has been emphasized by others.[2] However, we do know something about this need in the Neuropsychiatry Division of the Veterans Administration. Among the most persistent appeals coming into Washington from Veterans Administration hospitals and clinics are requests for the services of qualified neurologists. Nine times out of ten the reply must be "Regret, but no neurologist available for that area nor is there any prospect of finding one in the immediate future." The demand for qualified neurologists in the Veterans Administration is large, and at present we can only partially meet it, even after tapping all available outside sources. Perhaps the thousands of veterans with neurologic disabilities arising from two world wars will play some part in the shaping of the future of clinical neurology!

It is estimated that at least one third of the neuropsychiatric patients in general hospitals of the Veterans Administration are neurologic cases. About 50,000 epileptic veterans will require study and treatment in the next ten years. Among the casualties of World War II there are about 20,000 craniocerebral injuries, almost 3,000 paraplegics and 600 post-traumatic aphasic patients. Neurologic residuals from acute infections were proportionately far greater in World War II than in World War I, since chemotherapy and improved methods of care saved the lives of many men who with similar diseases died in World War I. As time goes on and veterans become older and hence more vulnerable to neurologic insults the number will steadily increase. For example, the peak of the neurologic census from World War I is not expected to be reached until 1949.

Read before the Section on Nervous and Mental Diseases at the Ninety-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., June 11, 1947.

1. Bailey, Percival: The Practice of Neurology in the United States of America, J. A. Am. M. Coll. **21**: 281, 1946.

2. Wilson, G., and Rupp, C.: Present Trends in the Practice of Neurology, J. A. M. A. **133**: 509 (Sept. 22) 1947. Bailey.[1]

A hint of what may be expected in the way of an increasing census of diseases of the nervous system is observed by a glance at the incidence of neurosyphilis. During the fiscal year of 1945, 2,556 veterans were treated in hospitals for symptomatic neurosyphilis. Of this number only 233 were veterans of World War II, the remainder, or 2,323, being veterans of previous wars. Now the question is naturally posed as to how many veterans of World War II will eventually develop neurosyphilis. At present this cannot be very accurately estimated, since the long-term results of the newer treatment methods for syphilis are not known. The Subcommittee on Venereal Disease of the National Research Council has estimated that approximately 12,500 veterans will develop symptomatic neurosyphilis over a spread of twenty-five years. This estimate is considered to be minimum, since it was made before it was known that variation had occurred in the potency of commercial penicillins.

To give these veterans with neurologic disorders the kind of medical study and treatment to which they are entitled by law and to develop this unique opportunity for follow-up studies on the largest group of neurologic patients ever to be assembled, so to speak, under a single roof, an ambitious program in neurology has been promulgated by the Veterans Administration which transcends strict intramural bounds by dedicating itself to the task of stimulating an increased interest in the general field of neurology wherever there is a hope to find a worthy response. Today there are not enough qualified neurologists in the country with sufficient time at their disposal to provide the desired type of care, and, unless more young men of high caliber can be attracted to neurology, the future care of veteran neurologic patients will be placed at a distinct disadvantage.

Our program, briefly, consists of two parts. The first aims at the development of existing facilities in neurology to the highest possible professional level with the materials that are now available. The second is designed to attract young physicians to the discipline of neurology in order to keep in step with expanding needs. Both parts of the program are now in active operation, but the former is naturally more advanced than the latter.

Let us consider the first part of the program in the light of its objectives and the work that has been accomplished during the first year of organization. This may be summarized under six practical headings: (1) decentralization of responsibility to the various branch areas of the Veterans Administration, (2) recruitment of qualified neurologists, (3) establishment of neurologic centers, (4) organization of residency training programs in neurology, (5) organization of specialized professional courses for neurologists and ancillary personnel and (6) promulgation of a sound program in research.

DECENTRALIZATION

In line with the overall policy of the Veterans Administration, considerable authority and responsibility for neurologic activities has been decentralized to the various branch offices in order to expedite activity. There are thirteen of these branches throughout the country, and the relationship of each branch to the central office in Washington is somewhat analogous to the relationship of state government to federal government in a jeffersonian democracy.

RECRUITMENT

Early in the task of reorganization of neurology in the Veterans Administration it became apparent that an outstanding deficit was the lack of qualified personnel to handle the new and staggering load of patients. Accordingly, branch section chiefs in neurology were appointed to supervise the activities in their respective areas. These section chiefs are all men of professorial rank in neurology and are members of the American Neurological Association. Moreover, the services of an additional 100 qualified neurologists were obtained, many of them members of the American Neurological Association, to act as full time and part time physicians and as attending physicians and consultants to hospitals and clinics. These men supply a nucleus for future growth.

NEUROLOGIC CENTERS

Seven neurologic centers have been established in general medical and surgical hospitals of the Veterans Administration, and additional ones are under development. These centers serve as diagnostic and treatment units to which patients from less adequately equipped hospitals and field stations may be referred. Certain national projects for the rehabilitation of large groups of veterans with similar neurologic disabilities, such as the paraplegics and the post-traumatic epileptics and aphasics, are being carried out in these centers.

RESIDENCY TRAINING

Eight residency training programs which provide for three years of training in basic and clinical neurology, including six months in psychiatry, are now under way. These residencies are under the direction of the neurologic departments of medical schools as prescribed by the dean's committee plan of the Veterans Administration. According to the plan, residents spend half their time in the Veterans Administration neurologic center and the remaining half in the lecture rooms, laboratories and hospitals of the medical school. The type of training received by these residents probably compares favorably with that of neurologic institutes. Moreover, in many instances the Veterans Administration residents have the benefit of contacting a greater variety of clinical material. Thus, for example, in one hospital with a residency training program there are 300 paraplegic patients in addition to 225 beds allocated for a neurologic diagnostic service.

PROFESSIONAL COURSES

It has been necessary to organize professional courses in specialized fields which are relatively young and have not as yet set up uniform standards of skill or performance, as for example electroencephalography. To date 35 physicians and technicians have been trained in electroencephalography under Dr. Frederic A. Gibbs at the University of Illinois, and of course we intend to train many more. As the Veterans Administration electroencephalographic laboratories build up, this program will be decentralized to the branches. Other professional courses now in operation provide for the training of personnel in the rehabilitation of aphasic patients and for the instruction of nurses in neurologic and neurosurgical nursing.

RESEARCH

No medical program can be long maintained in high gear without the benefit of the stimulus provided by research. This has particular reference to the program

of the Veterans Administration, where enthusiasm is apt to lag as the exhilaration provided by the war diminishes. Moreover, the vast amount of clinical material now available for medical follow-up studies supplies an impelling reason to use this unique occasion to advance our knowledge of injury and disease. Much time and thought have been given to this problem, but the organization of research projects in the Veterans Administration is necessarily slow. However, a national research project in epilepsy under the supervision of Dr. William G. Lennox has been started at the Cushing Veterans Hospital near Boston. Additional projects are pending.

The essence of the second part of our program is to attract, either directly or indirectly, more keen young men to the discipline of neurology in order that the Veterans Administration will be in position to draw its neurologists from a larger pool of talent than that which exists today. A veil of confusion envelops the entire subject of neurology. Prospective neurologists sense this confusion and are discouraged by what are construed to be practical disadvantages for one contemplating a career in clinical neurology. One naturally hesitates to cast one's lot with what has been termed by some as "a dying race," even though it may not be supported in fact. The confusion surrounding the status of neurology must be cleared and the practical disadvantages confronting prospective neurologists must be ameliorated before hopes of acquiring much new talent can be validly entertained.

From a survey of the literature and from our experiences in recruitment of neurologists we have listed what appears to be the major obstacles and sources of confusion facing physicians contemplating a career in neurology. Having accomplished this, we have attempted to fashion our program in such a way that it will absorb as far as possible these impediments and thereby clear the obstacles which apparently are blocking the path of entry for prospective neurologists. We have listed these obstacles and sources of confusion under four headings, namely (1) the neurologist's problem of earning a living, (2) relation of neurology to neurosurgery and the basic sciences, (3) the neurologist's dilemma with regard to therapy and (4) the prevailing psychologic orientation in psychiatry.

THE NEUROLOGIST'S PROBLEM OF EARNING A LIVING

The chief resistance of physicians predominantly interested in neurology to enter the field of neurology is a fear of not being able to "make a decent living" from an exclusively neurologic practice. The basis of this fear appears to lie in the fact that the clinical neurologist in private practice can no longer count on deriving a substantial portion of his income from treating the psychoneuroses to compensate for the frequent dearth of neurologic patients. Psychoneurotic patients have largely passed to the psychologically oriented psychiatrist, who may be better equipped both temperamentally and experientially for an understanding of this type of patient.

The Veterans Administration, by offering residency training and full time and part time positions to neurologists and prospective neurologists has diminished this economic hazard. Qualified neurologists may secure full time positions with respectable pay and may devote all their time to clinical neurology or its related basic sciences or they may hold part time positions as attending physicians or consultants and receive up to $6,000 a year for this work, which would help to compensate for the paucity of neurologic patients in private practice.

Thus, for example, a doctor may begin his career in an approved residency alined with the teaching program of a medical school, with pay at least equal to any corresponding civilian residency. After completion of his three years of training he may obtain a full time position with valid remuneration in the neurologic service of a Veterans Administration hospital until the time he is eligible for certification as a specialist. During this period he may have the opportunity without expense to add to his psychiatric training or to take up surgery or to increase the scope of his professional skill by taking a training course in electroencephalography or by joining some special research project, as for example the one in epilepsy. On certification, the young physician may continue in a higher grade on a full time basis with the Veterans Administration or he may enter civilian practice and be eligible for appointment as an attending physician to a Veterans Administration hospital or clinic, for which service he could receive up to $6,000 a year. It is hard to conceive of a plan that would offer more security to a young doctor during the trying years of basic training and beyond.

RELATION OF NEUROLOGY TO NEUROSURGERY AND THE BASIC SCIENCES

Another nebula clouding the perspective of the future neurologist is what Walshe and Symonds [3] describe as "the nettle of future relationships of neurology to neurosurgery." The basic question is Where does neurology end and neurosurgery begin, and vice versa? It is likely that this problem can be resolved only by a closer entente between the neurologist and the neurosurgeon, both of whom should implement and complement the other. With the collaboration of Dr. R. Glen Spurling, director of neurosurgery in the Veterans Administration, a closer integration between the two specialties is being sought by combining them, wherever practicable, into a single unit of activity.

Therefore, what has been termed so far as neurologic units are actually, as far as possible, neurologic-neurosurgical units. All patients, except acute surgical emergencies, are admitted to the neurologic service for initial study and work-up. Subsequent transfers of surgical cases are made to the neurosurgical service after consultation with the neurosurgeon. On completion of the necessary procedures, patients are returned to the neurologic service for convalescent care. Neurosurgeons have access to the neurologic part of the unit to increase their knowledge of neurologic disease, whereas neurologists have similar privileges on the surgical side of the unit in order that they may gain a closer understanding of neurologic surgery.

Few would resist the plea of Percival Bailey [1] for a closer union between clinical neurology and its related basic sciences. He remarks "Neurophysiology in this country is making rapid advances which are just crying to be applied in the clinic" and later adds "There are innumerable unsolved problems in clinical neurology awaiting the investigator who comes into the field through some basic discipline which can apply to them." Indeed, one of the difficulties we encounter in the recruiting of neurologists is this very lack of coordination between laboratory and clinic.

3. Walshe, F. M. R., and Symonds, C. P.: Neurologist and Neurosurgeon, Brit. M. J. 2: 364 (Sept. 15) 1945.

The Veterans Administration has taken cognizance of the need of a closer liaison between laboratory and clinic. By means of the dean's committee plan, some of our neurologic services have been brought into close contact with the laboratories of medical schools. But only a few medical schools provide adequate laboratory facilities for the investigation of all aspects of neurologic problems. Therefore we have included in our program provisions for the establishment of additional laboratories. This, however, has not as yet progressed beyond the planning stage.

THE NEUROLOGIST'S DILEMMA WITH REGARD TO THERAPY

The traditional garb of the neurologist is that of a diagnostician *par excellence* with little interest in therapy. Cloaked in this manner he has been forced to witness many cases which were entrusted to his care taken over by others because their treatment had been initiated elsewhere. Riley [4] sounded a knell of warning as to what might be expected as the result of the neurologists' indifference to therapy, but little has been done about it. Probably a great source of discouragement to physicians entertaining the possibility of becoming neurologists is the lack of a therapeutic orientation in neurology—particularly in this age, which is unmistakably therapeutically minded. In addition, it gives rise to the paradox that those who understand the structural implications of a disease best are not entrusted with its care—a phenomenon which is not in consonance with the optimal interests of the patient.

In the Veterans Administration the primary medical objective is and must be therapy. It is our duty to assess the mental and physical assets of each patient and develop them to the maximum in order that he will be less of a burden to himself, to his family and to the government. This strong therapeutic orientation should help solve the neurologist's dilemma about therapy. Our residents will be thoroughly trained in all methods of treatment of neurologic disorders, and it is expected that they will continue to apply the results of this experience after completion of training.

To cite an example of the therapeutic bent of the Veterans Administration would be timely. About eight months ago the Neurologic Service of the Veterans Administration Hospital at Minneapolis, which is under the supervision of Dr. A. B. Baker and Dr. Joe Brown, inherited 73 patients, all veterans of World War I. These patients were all bedridden; some had been in bed for over ten years—they belonged to that class of neglected men known as chronic neurologic patients. They were a heterogeneous group composed of cases of parkinsonism, multiple sclerosis, cerebellar atrophies, tabes dorsalis and vascular disease.

The chiefs of this service organized a "total push" program of therapy. In collaboration with the Medical Rehabilitation Division and its ancillary services and utilizing methods of muscle reeducation, physical therapy, prosthetic devices and psychologic motivation technics they began their job to rehabilitate these patients. The results more than justified the effort involved. Within eight months all but 6 of the original 73 patients were out of bed. Thirty-one patients have been discharged to their homes; 8 of this number are capable of self support and the remaining 23 are able to do some work. An additional 15 have achieved self care. Twenty-one more are up and about, enthusiastically working on their rehabilitation, and have a good outlook for the future. It is believed that by the use of these therapeutic methods about 75 per cent of chronic neurologic veterans can be placed on a level of self care, which means greater happiness which is their due, and an enormous saving to the government.

It is true that this form of therapeutic attack may lack the drama and sensationalism associated with some of the more rapid forms of medical therapy, but it supplies a wedge by means of which our neurologists can actively push further into the general treatment field with the ultimate goal of assuming responsibility of the treatment of all diseases which belong in their bailiwick. It is only in this way that veterans with neurologic disease can be assured the highest level of medical care from time of diagnosis to time of disposition.

THE PREVAILING PSYCHOLOGIC ORIENTATION IN PSYCHIATRY

Another distraction to the budding neurologist is the dramatic rise of the psychologic approach to the study of mental and emotional disorders. This methodology, which has been too long neglected in medicine, has risen to the fore and now occupies the driver's seat in psychiatry. Concerned on the one hand with the needs of the individual as a total person, particularly in terms of the dynamics of his psychosexual development and interpersonal contacts, and on the other hand entering the domain of anthropology and social psychology, as it applies to the betterment of existing social ills, "dynamic psychiatry" has a tremendous scope which encompasses the entire field of human relationships. This gives a compelling gregarious and literary appeal to the purely psychologic aspects of psychiatry. There is little question that the present lure of the prevailing psychologic orientation in psychiatry has diverted some young physicians from devoting much time to the study of neurology.

In spite if the enormous contribution of the psychologic approach to the effectiveness and growth of psychiatry, the irrefutable argument for further progress in neurology as an aid both to itself and to psychiatry is the fact that nearly all stimulus impulses and experiences are integrated and elaborated into higher reaction patterns through the mediation of the nervous system. Hence, in order to develop an ever increasing knowledge of neuronal activity and of the meaning of human behavior in terms of underlying physiologic mechanism, it is necessary to continue to increase our grasp of the functions and structure of the nervous system. At the present time this can be accomplished only on a proper scale by an activation and integration of the entire field of neurology.

The only persons to stimulate a renaissance in neurology and to convey its meaning to the rising generation of physicians are neurologists. But neurologists are noted for a certain aloofness to pushing or maintaining their cause, and for their conservatism. Would it not be better to modify this attitude somewhat, particularly in view of the present day aggressive trends in almost all medical specialties? Should not the traditional conservation be relaxed to some degree? Would it not be better for neurologists to unite in a spirit of constructive affirmativeness to formulate a program for an activation of clinical neurology? I am convinced that the future care of many neurologic veteran patients hinges in no small degree on the answers to these questions.

4. Riley, H. A.: Training of the Neurologist: Neurologia Irredenta, Arch. Neurol. & Psychiat. 29: 862 (April) 1933.

ABSTRACT OF DISCUSSION

DR. J. M. NIELSEN, Los Angeles: Dr. Bailey has pictured in detail the dilemma of neurology. The two fundamental causes of the situation are that the neurologist has not sufficiently expanded his interests to help out other specialists on borderline cases and that the neurologist will of necessity have to diagnose and treat psychoneuroses, for which purpose he needs considerable knowledge of psychiatry. I should like to limit the discussion now to the means by which the neurologist lives, for if he does not live he cannot serve his specialty regardless of how well he is prepared. The neurologist serves the general practitioner as a diagnostician and as a means of placing therapy on a sound basis. He serves the otolaryngologist and the ophthalmologist in distinguishing when a disease at first limited to one region of the body invades the brain. He serves the orthopedist in differential diagnosis of painful conditions and in diseases of the muscles. He serves the general surgeon in differentiating functional abdominal states from surgical ones. The anesthetist refers cases when complications arise. The obstetrician refers both mother and baby for trauma at birth. The urologist asks for help on suspected neurogenic bladder, the radiologist for interpretation of etiology of roentgenologic conditions. Even the psychologist and the electroencephalographer ask for help. Last but not least, the Industrial Accident Commission constantly needs help in a neurologic survey of traumatic cases. If the young neurologist will make himself capable of rendering genuine help in these fields, he will have no difficulty making a living.

CARCINOMA OF THE LARGE INTESTINE

Diagnostic Errors in Relation to Location of the Lesion

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In spite of the existence of accurate diagnostic procedures and intensive educational campaigns directed toward both physician and patient, many carcinomas of the large intestine become far advanced before a diagnosis is made. In 1924, after reviewing the records of 1,937 patients who had carcinoma of the rectum or sigmoid, Buie [1] made the statement that 1 of every 5 of these patients had been operated on for hemorrhoids or had been treated symptomatically for some type of organic disease, other than the carcinoma. The aforementioned author has made this statement repeatedly since that time. It is remarkable, however, that during the period of their symptoms just as many patients as heretofore continue to receive treatment for some supposed condition of the rectum or colon other than the carcinoma, which thus remains undiscovered.

The purpose of our study was to determine the nature of the treatment in relation to the location of the carcinoma. More specifically, the study consisted in considerations on (1) how many carcinomas of the large intestine within reach of the examining finger are diagnosed and treated as some other disease during the course of the patient's symptoms, the carcinoma remaining undiscovered; (2) how many additional carcinomas which should have been visible at sigmoidoscopic examination are erroneously treated, and the nature of the treatment; (3) how many carcinomas discernible in roentgenograms of the colon likewise are erroneously treated, and the nature of the treatment, and (4) how many carcinomas of the large intestine are discovered only at surgical abdominal exploration.

To answer these questions we studied the records of all patients with carcinoma of the colon and rectum who came to the Mayo Clinic during a one year period; that is from Jan. 1, 1944 to Jan. 1, 1945. There were 817 patients in the group with a total of 825 lesions; 492 of the patients were men and 325 were women, a ratio of 3:2. The situations of the lesions are represented in the accompanying illustration.

LESIONS ACCESSIBLE TO THE EXAMINING FINGER

It should be emphasized that although we have divided the 817 patients into four groups, according to the method of diagnosis employed, the diagnostic procedures overlap. That is, the use of one diagnostic procedure frequently calls for the use of another as a supplementary or confirmatory aid. For instance, a rectal carcinoma, although palpable, should be examined with the proctoscope to gain additional information, such as the degree of obstruction, the situation of the lesion and whether or not polyps are associated, and to permit removal of a specimen for biopsy. Similarly, if a polyp or bloody mucus is visualized with the proctoscope, roentgenologic study of the colon is indicated.

Whether or not a carcinoma of the lower part of the bowel is palpable on digital examination is dependent on several factors: (1) the situation of the lesion; (2) the position of the patient at the time of examination; (3) the degree of obesity and muscular development of the patient; (4) the ability of the patient to cooperate; (5) the thoroughness of the examiner, and (6) the mobility of the lesion.

Of the entire group of 817 patients in this study, 634, or 77.6 per cent, had carcinomas which were located in the terminal portion of the bowel, meaning the sigmoid, rectum and anorectal region. The lesions of 444 patients (70 per cent of the 634 who had lesions of the terminal part of the bowel or 54.3 per cent of all those who had carcinomas of the large intestine) were palpable on digital examination or were within reach of the examining finger. Many of the lesions of the sigmoid were palpable in the form of extrarectal masses, and actually were suspected rather than being directly palpable. Nine of the 444 patients who had lesions within reach of the examining finger had to be examined under the influence of caudal sacral anesthesia because of their inability to cooperate or because the lesion had extended to involve the sensitive anal area.

Of the 444 patients who had palpable lesions, 102, or 23 per cent, had received treatment during the course of their symptoms other than therapeutic measures directed toward the unsuspected carcinoma that later was found to be within reach of the examining finger. Analysis of some of the various therapeutic procedures instituted in this group of 102 patients showed that 42 underwent surgical treatment for hemorrhoids, and that 4 of these patients were subjected to this procedure twice. Another group of 35 patients received a form of injection treatment for hemorrhoids. Four patients underwent surgical treatment of fissure; 4 underwent fistulectomy; 4 others underwent some form of anorectal surgical procedure, the exact nature of which the patient did not know. Three patients were treated for colitis and 3 for amebiasis. Another 4 patients received electrical treat-

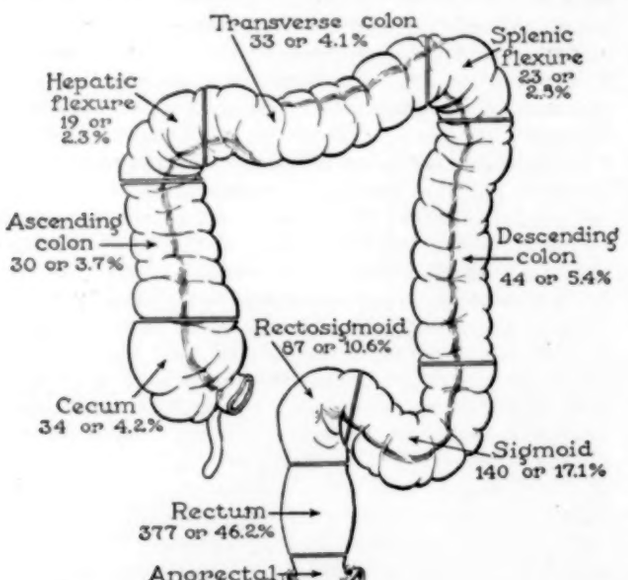
From the Section on Proctology (Dr. Jackman) and the Division of Surgery (Dr. Waugh), Mayo Clinic, and Fellow in Surgery, Mayo Foundation (Dr. Neibling).

1. Buie, L. A.: Proctoscopic Examination and the Treatment of Hemorrhoids and Anal Pruritus, Philadelphia, W. B. Saunders Company, 1931, p. 33.

ment for hemorrhoids; 3 others were treated with suppositories. Interesting is the fact that, as previously mentioned, each of 4 patients underwent two operations for hemorrhoids while they had the symptoms of carcinoma.

LESIONS NOT ACCESSIBLE TO THE EXAMINING FINGER BUT VISIBLE AT PROCTOSIGMOIDOSCOPY

As stated previously, proctoscopic or sigmoidoscopic examination is not a substitute for digital examination, just as digital examination is not a substitute for that with the proctoscope. Information of a somewhat different nature is obtained by each method. In proctoscopic examination the surgeon is interested in determining several things, such as, first, the situation and extent of the lesion in relation to the number of centimeters of normal bowel distal to it, so that he may obtain necessary information as to the type of operative procedure advisable. Next, he wishes to ascertain the degree of obstruction, since this knowledge is important from the point of view of preparation of the



Situation of the carcinomas of the large intestine of 817 patients, according to number of patients, percentage and site of occurrence within the designated structure or region. (There were 8 patients with multiple lesions.)

patient. Third, he wishes to secure a specimen of tissue for biopsy, so that the grade of the lesion can be determined. Fourth, he seeks to learn the degree of mobility or fixation of the lesion, since this is important from the point of view of operability. This factor, however, finally must be determined at the time of surgical exploration.

In addition to the 444 patients (54.3 per cent of all those who had carcinomas of the large intestine) who had lesions palpable on digital examination, all of which were visualized at proctosigmoidoscopic examination, 132 additional patients, or 16.2 per cent, had lesions of the lower bowel which were visible by sigmoidoscopic study. Thus a total of 576 patients (70.5 per cent of the total series of 817) had carcinomas of the large intestine which were within reach of the sigmoidoscope.

In this group of 132 patients with lesions which were not palpable on digital examination but were within reach of the sigmoidoscope, 34, or 25.8 per cent, had received treatment directed at some disease process other than the carcinoma, which had remained undiscovered. An analysis of this group of 34 patients showed that 28 patients had been treated either surgically or by some unknown procedure involving the anus. One had undergone fistulectomy, 3 had been treated for amebiasis and 2 had been treated for ulcerative colitis. Parenthetically, it might well be pointed out that amebiasis, like chronic ulcerative colitis, can coexist with carcinoma of the large intestine.

LESIONS DISCERNIBLE IN ROENTGENOGRAMS OF THE COLON

Of the patients who had lesions located higher in the colon, beyond the reach of the examining finger and the sigmoidoscope, 232 (28.4 per cent of the total series of 817) had carcinomas which were diagnosed by roentgenograms of the colon. Twenty-three patients, or 9.9 per cent, of this group had received other treatment during the period in which they were experiencing symptoms due to the carcinoma. Six had been operated on for hemorrhoids. Five had been treated for pernicious anemia by the intramuscular injection of liver extract. It is generally accepted that a secondary type of anemia is of common occurrence in the presence of malignant processes of the right portion of the colon. Five patients had been treated for colitis of some form; 2 had been treated for amebiasis and 2 had undergone appendectomy. In the last 2 cases the carcinoma had remained undiscovered, even though it was located in the cecal region. Polyps in the rectum had been diagnosed and treated in 3 patients, but carcinomas situated in a higher segment of the colon had not been discovered. It should be pointed out that the discovery of one polyp or more in the lower bowel ought to be an indication for examination of the rest of the colon by roentgen rays, with which the double contrast method is employed.

LESIONS ENCOUNTERED AT SURGICAL ABDOMINAL EXPLORATION

The remaining 9 (1.1 per cent of the total series of 817) of the 817 patients had lesions that had been diagnosed only at surgical abdominal exploration. In most instances in this group performance of emergency colostomy had been necessary because of obstruction of the large bowel, and the diagnosis had been made at the time of that operation. No significant treatment had been carried out for members of this group during the period in which they had experienced symptoms from carcinoma.

COMMENT

Paradoxic as it may seem, results of this study indicate that those patients who have carcinomas of the large intestine which can be diagnosed with the greatest ease—that is, by digital examination only—are more likely to be treated for some condition unrelated to the carcinoma. Of the 444 patients, or 54.3 per cent of the total of 817, who had lesions palpable on digital examination of the rectum, 102 (23 per cent of the 444), or 1 of every 4, had received some other treatment not directed at the carcinoma during the period in which they were experiencing symptoms from the unsuspected carcinoma. In comparison to this, of the 232 patients who had lesions located at a higher level in the large intestine 23, or 9.9 per cent of the 232, had been treated for some other disease, while none of the 13 patients who had carcinomas diagnosed at surgical abdominal exploration had received treatment for the lesion in question.

SUMMARY AND CONCLUSION

In the group studied, more than half (54.3 per cent) of all patients with carcinoma in any part of the large intestine had lesions which could be palpated by digital examination of the rectum. About a fourth (23 per cent) of the patients in this group had received some form of treatment for disease of the colon or rectum, but not for carcinoma, during the course of their symptoms arising from the unsuspected carcinoma that was within reach of the examining finger.

An additional 16.2 per cent of all the patients who had carcinomas anywhere in the large intestine had lesions which were within reach of the sigmoidoscope. A fourth (25.8 per cent) of this group had received treatment for some disease other than the carcinoma, which had remained undiscovered.

Patients who had carcinomas of the large intestine that were beyond the reach of the examining finger and sigmoidoscope constituted the remaining 29.5 per cent of the total series of 817. Of this group, 28.4 per cent had carcinomas that were diagnosed by roentgenologic studies of the colon, and 1.1 per cent had lesions that were discovered at abdominal surgical exploration. In this group, during the period of symptoms from carcinoma, only 9.9 per cent of the patients had received treatment directed toward any other condition.

CLINICAL EVALUATION OF VASCULAR DAMAGE IN DIABETES MELLITUS

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The discovery of insulin twenty-five years ago served to avert the catastrophic threat to life represented by diabetes mellitus but unfortunately initiated an attitude of complacency in the members of the medical profession. What was intended as a palliative became the panacea; control of the blood sugar level was interpreted as control of the disease. But "maintenance of life is not sufficient in itself as a goal in the treatment of diabetes mellitus." [1] The optimism of that early period is now being dissipated by a number of anxious reports [2] on the mounting incidence of seemingly inevitable degenerative sequelae. Rosenbusch [3] has concluded a painstakingly thorough study of 88 diabetic children with the following: "The prognosis of diabetes in childhood—taking a long view—is in spite of the progress of dietary and insulin treatment more adverse than had originally been expected." Joslin [4] has found evidence of vascular damage in 70 per cent of 250 juvenile patients despite twenty years of treatment. Wagener's [5] most recent survey from the Mayo Clinic recognizes the seriousness of "the steadily increasing frequency of retinopathy, especially in the younger age groups."

A unique association of diabetes with vascular damage in various organs was described as a pathologic and clinical entity by Kimmelstiel and Wilson [6] and termed "intercapillary glomerulosclerosis." Subsequent reports [7] have stressed the terminal nature of this syndrome, with its clinical aspect limited to the triad of hypertension, retinopathy and albuminuria. Failure to study the pathogenesis of this condition stands in decided contrast to the pathologist's zeal in ferreting out the characteristic glomerular lesion with increasing [8] frequency among diabetic persons. It is the purpose of this paper to demonstrate that this syndrome exists with varying expressions of severity in every instance of diabetes mellitus of some duration.

MATERIAL

Two hundred patients in whom the onset of diabetes occurred before the age of 50, either in childhood, adolescence or adulthood, were the subjects of this study. Fifty-five were juvenile patients in whom the diabetic condition began before the age of 20. These patients formed a special group, which will be discussed in greater detail than the others. The infrequency of significant vascular damage in nondiabetic persons of this age obviated the need for a comparison group. The patients were selected from the metabolism clinic of Mount Sinai Hospital and private practice on the basis of detailed medical records dating from the onset of diabetes, with emphasis on regular ophthalmoscopic examinations, determinations of blood pressure and complete urinalyses. These procedures were performed on each visit to the physician, month after month and year after year, so that a picture of the evolution of abnormal observations was obtained. Consequently the results are not comparable with those of many investigations [9] based on single or "spot analyses" of similar patients. No mydriatics were used for ophthalmoscopy; careful scrutiny of the retina through the undilated pupil proved surprisingly successful and permitted unprotested repetition of this examination on each visit. "The earliest and the most characteristically diagnostic and therefore possibly the basic lesion is the small punctate hemorrhage in the presence of ophthalmoscopically normal retinal vessels." [5] Elevation of the diastolic blood pressure above 90 mm. of mercury was considered evidence of hypertension in the case of juvenile patients; for adults 100 mm. was taken as the critical reading. Albuminuria was so constantly associated with cylindruria that the former term will be used in this inclusive sense throughout the paper.

DIABETIC CONTROL

The 55 juvenile patients included 19 whose diabetes began before the tenth year. (One patient in this group had had diabetes since the age of 11 months.) There have been 7 fatalities among the 55; 3 with intercapillary glomerulosclerosis, 2 cerebral accidents without hypertension and 2 postoperatively of unknown causes. These 7 will be the subject of a future report.

The accepted dictum that "control" of glycosuria influences the development of degenerative change served as the basis for the analysis presented in table 1. The treatment of 20 young diabetic patients satisfied all orthodox criteria for excellent diabetic control, namely, adherence to moderate carbohydrate, low fat

From the Metabolism Service of Mount Sinai Hospital.

1. Boyd, J. D.; Jackson, R. L., and Allen, J. H.: Avoidance of Degenerative Lesions in Diabetes Mellitus, J. A. M. A. **118**: 694 (Feb. 28) 1942.
2. Dolger, H.: The Clinical Evolution of Vascular Damage in Diabetes Mellitus, Bull. New York Acad. Med. **22**: 482 (Sept.) 1946.
3. Rosenbusch, H.: Prognose und Spätkomplikationen des Diabetes Mellitus im Kindesalter, Basel, S. Karger, 1945, p. 78.
4. Joslin, E. P.: Insulin's Twenty-Fifth Anniversary, Diabetes Abst. **5**: 37 (April) 1946.
5. Wagener, H. P.: Retinopathy in Diabetes Mellitus, Proc. Am. Diabetes A. **5**: 203, 1945.
6. Kimmelstiel, P., and Wilson, C.: Intercapillary Lesions in the Glomeruli of the Kidney, Am. J. Path. **12**: 83 (Jan.) 1936.
7. (*a*) Newburger, R. A., and Peters, J. P.: Intercapillary Glomerulosclerosis: A Syndrome of Diabetes, Hypertension and Albuminuria, Arch. Int. Med. **64**: 1252 (Dec.) 1939. (*b*) Siegel, S., and Allen, A. C.: Intercapillary Glomerulosclerosis (Kimmelstiel-Wilson) and the Nephrotic Syndrome in Diabetes Mellitus, Am. J. M. Sc. **201**: 516 (April) 1941.
8. Laipply, T. C.; Eitzen, O., and Dutra, F. R.: Intercapillary Glomerulosclerosis, Arch. Int. Med. **74**: 354 (Nov.) 1944.
9. Hanum, S.: Diabetic Retinitis, Acta ophth., 1939, supp. 16, p. 3.

diets and exhibition of little or no glycosuria. Within a range of six to twenty-two years' duration, retinal hemorrhages were noted in all, with an average duration of diabetes of thirteen years when the earliest lesions were observed. By the time retinopathy had developed 50 per cent of patients presented definite hypertension and 30 per cent albuminuria. The first patient to receive insulin at Mount Sinai Hospital was a girl 9 years of age. The control of her disease has always been considered perfect. For the past ten years she has never presented a single instance of glycosuria on a diet of carbohydrate 150 Gm., protein 80 Gm. and fat 80 Gm., with a fixed dose of 60 units of protamine zinc insulin. Twenty-two years after the onset of diabetes numerous retinal hemorrhages were observed along with albuminuria and a blood pressure of 150 systolic and 100 diastolic.

A parallel group of 18 patients in whom only a fair degree of diabetic control could be obtained presented retinal hemorrhages within five to twenty years after onset, the average duration of diabetes for the group being 10.4 years. At this time one third of the 18 patients displayed hypertension and albuminuria.

A third group of 17 patients had been categorized as having an unusually severe brittle form of diabetes in which glycosuria and hyperglycemia defied all therapeutic measures. The regimentation of diet evoked such resistance in many of these children and produced such pronounced psychic trauma [10] that *faute de mieux* a free diet was condoned. In recent years these patients were even encouraged to continue this regimen as more and more divergence of opinion appeared on the subject of the ideal diet. Lichtenstein [11] summarized the conflict among the proponents of various dietary manipulations in the following: "If any valid scientific grounds for the superiority of a certain form of diet had existed, this diet would doubtless have soon superseded all the others." The incidence of retinal hemorrhage was noted between five to nineteen years after the onset of diabetes, an average group span of 12.4 years. Hypertension accompanied this finding in 40 per cent of patients and albuminuria in 64 per cent with both usually occurring in the same patients.

TABLE 1.—*Relation of Diabetic Control to Vascular Damage in Fifty-Five Juvenile Patients*

		Onset of Retinal Hemorrhage				
Diabetic Control	No. of Patients	Average Duration of Diabetes, Yrs.	Patients with Hypertension	Patients with Albuminuria	Patients with Vascular Calcification	Patients Subsequently Blind
Excellent	20	13.0	10	6	2	1
Fair	18	10.4	6	7	2	2
Poor	17	12.4	7	11	2	2

The course of the perfectly controlled diabetic girl previously described may be contrasted with that of one of her contemporaries, a boy whose diabetes began in 1926 when he was 4 years of age. He has been on an unrestricted diet for twenty years. When he was but 5 years of age his physician, Dr. A. E. Fischer, admitted that there was "no use pretending to keep this child on a calculated diet." There has been a daily carbohydrate intake of over 400 Gm. plus large quantities of sugar-inducing, continuous glycosuria (60 to 100 Gm.) without a single episode of ketosis in all these years. For the past ten years the dosage of 80 units of protamine zinc insulin has not required alteration. Despite this gross violation of orthodox therapeutic procedure the earliest vascular damage did not appear until nineteen years after the onset of diabetes. At this time several retinal hemorrhages were noted in association with mild albuminuria and a blood pressure of 140 systolic and 100 diastolic. Within almost the same period these 2 patients exemplifying the extremes of diabetic therapy arrived at the same stage of degeneration.

TABLE 2.—*Relation of Age of Onset of Diabetes to Vascular Damage in Two Hundred Patients*

		Onset of Retinal Hemorrhage					
Age of Onset of Diabetes	No. of Patients	Average Duration of Diabetes, Yrs.	Patients with Hypertension		Patients with Albuminuria		Patients Subsequently Blind
			No.	%	No.	%	
0-19	55	13.0	27	49.1	24	43.6	5
20-29	21	13.3	9	42.9	10	47.6	3
30-39	45	13.0	21	46.7	23	51.1	6
40-49	79	10.0	37	46.8	48	60.8	13
Total	200		94		105		27

Table 1 indicates the limitations in the use of the x-ray as a means of estimating early vascular damage. It is noteworthy that when retinal lesions had occurred in 100 per cent of the juvenile patients, and hypertension and albuminuria in 40 per cent, the roentgenologic survey lagged behind with a positive corroboration in only 11 per cent.

SIGNIFICANCE OF AGE

The relation of the age of onset of diabetes to the development of vascular lesions in the entire group of 200 patients is presented in table 2. A remarkable parallelism in observations is evident between the juvenile patients and the young diabetic adults in whom the onset of the disease occurred two decades later, namely, at age 20 to 39. In the group aged 20 to 29 the appearance of retinal hemorrhage was noted between four to twenty-two years after the onset of diabetes, with the average duration for the group of 13.3 years. In the group aged 30 to 39 retinopathy appeared between three to twenty-four years after onset, the average duration of diabetes being thirteen years for the group. The patients of these two decades presented almost identical association of hypertension and albuminuria in about 50 per cent of cases.

TABLE 3.—*The Development of Retinopathy in Relation to the Use of Insulin*

Age of Onset of Diabetes	Treatment	No. of Patients	Aver. Duration of Diabetes at Earliest Retinopathy, Yrs.	Subsequent Progression to Blindness
30-39	Diet alone	12	12.0	3
	Insulin	33	13.5	3
	Total	45	13.0	6
40-49	Diet alone	17	8.3	6
	Insulin	62	10.5	7
	Total	79	10.0	13

The oldest group (onset at 40 to 49 years of age) presented evidence of accelerated vascular degeneration with the earlier appearance of all the abnormal findings with even greater frequency. The retinal lesions were noted between zero to twenty years after the onset of

10. Fischer, A. E., and Dolger, H.: Behavior Psychologic Problems of Young Diabetic Patients: A Ten to Twenty Year Survey, Arch. Int. Med. **78**: 711 (Dec.) 1946.

11. Lichtenstein, A.: Treatment of Children's Diabetes: Ten Years' Experience Without Dietetic Restrictions, Acta pædiat. **32**: 556, 1945.

the disease, the average duration being ten years. Several patients showed advanced visual failure even before the classic symptoms of diabetes appeared. The apparent tendency toward the earlier development of retinopathy in the mild (noninsulin) cases (table 3) was due to the inability to estimate the duration of diabetes in cases in which the onset was clinically undramatic. "Duration of the diabetes is a much more important factor than is the age of the patient." [5] The glycosuria of patients in the three older groups was well controlled by insulin and diet or by diet alone.

THE COURSE OF RETINOPATHY

The appearance of retinal hemorrhage often presaged the inevitable pattern of more generalized and progressive vascular degeneration. The rate of progression had no relation to the severity of diabetes or its control. The hemorrhages often resorbed spontaneously, thereby making the effect of any specific therapeutic measures difficult to evaluate. The persistent recurrence of small hemorrhages often escaped notice by the patient or physician because of the lack of appreciable interference with vision. On the other hand, without apparent reason, the sudden appearance of retinal hemorrhages not infrequently progressed to blindness within a year. This disaster occurred when retinitis proliferans developed with subsequent retinal detachment, massive vitreous hemorrhage and secondary glaucoma.

Twenty-seven patients of the total group of 200 became partially or totally blind (table 2). This shocking sequel to retinopathy was found in 5 of the juvenile patients. The duration of diabetes in these cases was fourteen years in 2 instances and sixteen, nineteen and twenty-four years in the others. Table 1 indicates that the control of glycosuria failed to prevent this tragedy. These 5 patients presented the triad of the originally described syndrome of hypertension, albuminuria and nephrotic edema.

OTHER DEGENERATIVE CHANGES

All the blind patients had albuminuria of varying severity; hypertension, however, was found in only 60 per cent. Evidences of vascular myelopathy were found in every instance of blindness. There were 3 patients with cord bladder symptoms and 4 with interosseous atrophy resembling amyotrophic lateral sclerosis. The majority of blind patients showed trophic changes of the skin, especially in the lower extremities.

COMMENT

The most significant deduction to be drawn from this study is that the duration of diabetes mellitus rather than the method of treatment is the most important factor in the development of degenerative changes. "It makes little difference how the diabetic is treated; if he lives long enough, he will develop one or another form of vascular disease." [12] This has been corroborated experimentally by Lukens and Dohan [13] in the observation of a lesion resembling that of intercapillary glomerulosclerosis in the first animal with pituitary diabetes to survive a period of five years. In 1930 Warren [14] claimed never to have seen an autopsy of "a diabetic whose disease lasted five years or more, free from arteriosclerosis, regardless of age." Eight years later he amended that statement, having found but 4 cases without this vascular damage. Priscilla White [15] admits "the incidence of degenerative complications in juvenile diabetes far exceeds expectation. . . . arteriosclerosis appears inevitable." Although in agreement with Lichtenstein's [11] free diet, I am constrained to point out the inadequacy of a mere ten years' observation as the basis for his claim of diabetic complications in "remarkably small degree." Wagener [5] emphasized the element of duration in finding an incidence of retinopathy in 76 per cent of patients under 30 years of age who had had diabetes for more than ten years.

The more obvious carbohydrate disturbance of what is commonly termed diabetes mellitus has overshadowed the generalized nature of the disease, the etiology of which is still unknown. The concept of vascular damage as a complication of diabetes must be amended in the light of all current observations; it is to be recognized rather as an integral manifestation of the basic disorder, an "associated concomitant of the disease." [16] Such a biologic approach to this problem was postulated by Dry and Hines [17] on the basis of "an inherent weakness . . . which affects both the insulin-producing tissues and the vascular system" with a common mechanism for the production of arteriosclerosis, retinopathy and neuropathy on the basis of involvement of the nutrient vessels to these structures. The diabetic patient provides unique material for the study of the phenomena of aging and associated degenerative diseases since it has been demonstrated that diabetes represents an acceleration of these processes.

CONCLUSION

1. Within a period of twenty-five years' duration of diabetes mellitus not 1 of 200 regularly examined patients escaped retinal hemorrhage, regardless of age of onset, severity of diabetes or type of treatment used.

2. Retinopathy usually presaged progressive vascular degeneration. Fifty per cent of patients exhibited hypertension and albuminuria at the time of earliest retinal hemorrhage.

3. Present day treatment of diabetes has failed to avert the accelerated vascular damage, which is an associated phenomenon of the disease and not a complication.

1049 Park Avenue.

12. Mirsky, I. A.: Our Challenge for the Future, Diabetes Abst. **5**: 71 (July) 1946.
13. Lukens, F. D. W., and Dohan, F. C.: Experimental Pituitary Diabetes of Five Years' Duration with Glomerulosclerosis, Arch. Path. **41**: 19 (Jan.) 1946.
14. Warren, S.: The Pathology of Diabetes Mellitus, Philadelphia, Lea & Febiger, 1938, p. 121.
15. White, P.: Diabetes in Youth, New England J. Med. **224**: 586 (April 3) 1941.
16. Mirsky, I. A.: Some Considerations of the Etiology of Diabetes Mellitus in Man, Proc. Am. Diabetes A. **5**: 119, 1945. Mirsky.[12]
17. Dry, T. J., and Hines, E. A., Jr.: The Role of Diabetes in the Development of Degenerative Vascular Disease, with Special Reference to the Incidence of Retinitis and Peripheral Neuritis, Ann. Int. Med. **14**: 1893 (April) 1941.

Venous Catheterization of the Heart.—Werner Forssman was the first to pass a catheter into the heart of a living patient, doing it first on himself with the help of a surgical colleague who made the incision over the median basilic vein in the antecubital space. Cournand and Ranges and their associates have used the method more than any group in this country, largely in the study of cardiovascular dynamics, particularly in shock. Their report in 1941 stimulated others to use the venous catheter, and at present a considerable literature has accumulated on the subject. Cournand reported 1,200 such examinations with no fatalities and no serious complications from the passage of the catheter. However, we know of one death in another institution following the injection of diodrast through the catheter in a patient who had been injected with the same medium ten days before.—Sosman, Merrill C.: Venous Catheterization of the Heart, *Radiology*, May 1947.

POTASSIUM DEFICIENCY IN DIABETIC ACIDOSIS

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and
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Acidosis presents the most dramatic and dangerous of all the complications of diabetes mellitus. That the therapy in diabetic acidosis is unsatisfactory is shown not only in the mortality tables, but in the disagreements that arise whenever the subject is discussed. It is generally conceded that insulin is the prime need. Next in importance is correction of the disturbed water and electrolyte metabolism consequent to insulin deficiency.

Since 1936 the following plan of therapy has been used on all adult patients admitted to Duke Hospital with diabetic acidosis. When the diagnosis was made, blood was drawn for analysis and 50 units of unmodified insulin was given. This amount was repeated every half hour until the blood sugar level approached normal. On the ward gastric lavage and an enema were given, and external heat was applied. Subcutaneous and intravenous infusions of isotonic solution of sodium chloride were started and allowed to run at a rate of 750 to 1,000 cc. per hour. When the blood sugar level was decidedly reduced, a 10 per cent solution of dextrose was given intravenously. Sixty-seven per cent of the patients received sodium lactate solution along with the isotonic solution of sodium chloride.

Recently, Holler [1] reported a patient whose course resembled that of some observed in this clinic. There was a history of failure to take insulin for several days, resulting in acidosis and coma. On admission to the hospital, adequate therapy was given and improvement was prompt, only to be followed in several hours by generalized weakness and respiratory difficulty. The clinical syndrome of potassium deficiency was recognized, and the administration of potassium chloride was followed by dramatic improvement. In the light of this report, detailed study of 2 cases and a review of the data on all diabetic persons admitted here in a state of acidosis are presented.

REPORT OF CASES

Case 1.—A white woman aged 28 was admitted in February 1939. She was known to have diabetes of six months' duration, and she had taken insulin in a haphazard manner. She had received no insulin for six days prior to admission, and two days before there had developed abdominal pain, nausea and vomiting. About eighteen hours before admission she became stuporous and could hardly be roused; for fourteen hours she had been comatose.

Physical examination disclosed that the blood pressure was 140 systolic and 92 diastolic, and the temperature 36.5 C. (97.7 F.). Characteristic Kussmaul respiration was present, and the odor of acetone was on her breath. Her skin was dry, cool and inelastic; the eyeballs were soft. The remainder of the physical examination was noncontributory.

Blood sugar determinations and the serum carbon dioxide combining power and potassium concentration were followed throughout her stay in the hospital.

After two hours of the usual treatment the patient began to rouse, and after eight hours she appeared quite well. About twelve hours later she began to complain of difficulty in breathing; this did not manifest itself objectively. The plasma carbon dioxide combining power was 40 volumes per cent and the blood sugar level was 84 mg. per hundred cubic centimeters. The patient complained of difficulty in swallowing, which progressed to inability to take anything by mouth, and respiration gradually became more rapid and shallow. Repeated physical examinations revealed nothing beyond an extreme degree of weakness of all muscles; the patient remained alert. Nikethamide was given frequently with no helpful effect. The blood sugar and serum carbon dioxide combining power had been approximately normal for twelve hours, and the urine had been free of sugar and acetone for twenty-four hours. The patient died in collapse thirty-seven hours after admission. No autopsy was obtained.

During the first twenty-four hours in the hospital she received by intravenous infusion 9,000 cc. of isotonic solution of sodium chloride. Dextrose was not given until after thirty hours, when the patient was already having respiratory distress.

As shown in chart 1, there was a progressive decrease in the serum potassium concentration, so that six and one-half hours before death it had reached 2.4 milliequivalents per liter (determined by the method of Kramer and Tisdal [2]).

Case 2.—A white woman aged 60 was admitted in September 1946. This patient was the first person with diabetic acidosis admitted to Duke Hospital since the appearance of Holler's report. Six days before admission her insulin syringe was broken, and in order to punish her family for neglecting her she made no effort to replace it. She complained of abdominal pain and vomiting for three days before admission, and twelve hours before arrival she was found in deep coma.

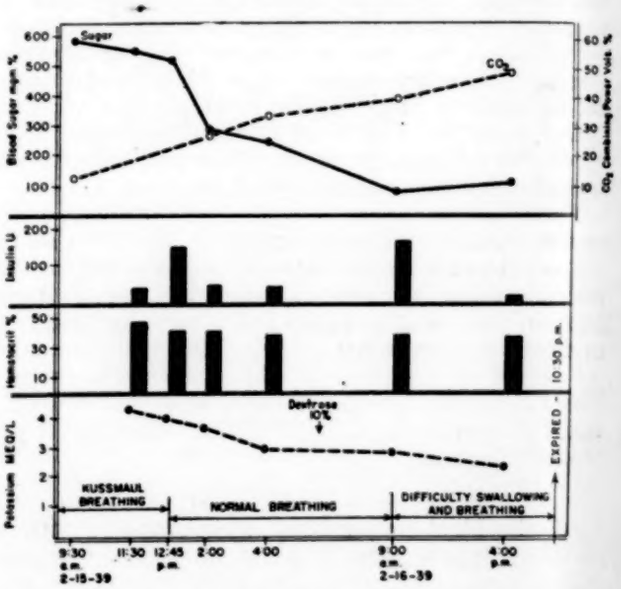

Chart 1 (case 1).—Results of laboratory tests showing decrease in the serum potassium concentration.

Physical examination disclosed the temperature was 37 C. (98.6 F.) and the blood pressure 80 systolic and 50 diastolic. Respirations were of the Kussmaul type. There were signs of extreme dehydration and an odor of acetone on her breath. She did not respond to painful stimuli. The remainder of the examination revealed essentially normal conditions.

The urine showed a strong reaction for sugar, acetone and diacetic acid. The blood sugar level and the serum carbon dioxide combining power are shown in chart 2.

Six hours after admission the patient roused; her respiratory rate was normal and she appeared much improved. At eight hours her blood sugar level was 324 mg. per hundred cubic centimeters, her carbon dioxide combining power was 34 volumes per cent and urinalysis showed traces of sugar and acetone with no diacetic acid. One hour later her respirations became shallow, rapid and obviously difficult. She received a 10 per cent solution of dextrose intravenously, with further impairment

From the Department of Medicine, Duke University School of Medicine, and Duke Hospital.

1. Holler, J. W.: Potassium Deficiency During the Treatment of Diabetic Acidosis, J. A. M. A. **131**: 1186 (Aug. 10) 1946.

2. Peters, J. P., and Van Slyke, D. D.: Quantitative Clinical Chemistry: Methods, Baltimore, Williams & Wilkins Company, 1932, vol. 2.

of respiration. She was then given 0.6 Gm. of potassium chloride by mouth every half hour until 3.6 Gm. had been given. Within two hours her respirations were normal and subjectively she was greatly improved. The patient made an uneventful recovery.

The serum potassium concentration shown in chart 2 was determined in a flame photometer by the method of Barnes and associates.[3] The lowest concentration was 1.9 milliequivalents per liter, and at this time the patient was in respiratory distress. It must be pointed out that though the respiratory difficulty was present before the patient received dextrose, it became more pronounced afterward.

TABLE 1.—*Data on Diabetic Acidosis*

	Total Cases			Total Cases Less Deaths from Other Causes		
Mental State	Cases	Deaths	% Mortality	Cases	Deaths	% Mortality
Conscious	11	0	0	11	0	0
Drowsy	28	0	0	28	0	0
Semicomatose	42	9	21.4	37	1	2.7
Comatose	55	30	54.6	43	21	48.8
Totals	136	39	28.9	119	22	18.5
Hours in Coma						
12	102	18	17.7	92	8	8.7
12 to 24	21	12	57.2	18	9	50.0
24	13	9	69.2	9	5	55.6
Totals	136	39	28.9	119	22	18.5

From its opening in 1930 to Jan. 1, 1946, 136 patients in diabetic acidosis have been admitted to Duke Hospital (table 1). Of the 39 who died, 17 had other disease that was the probable cause of death (table 2). When these are eliminated, the mortality rate for the remaining 119 patients is 18.5 per cent. This rate is much higher than any reported in recent years from other clinics. Only one recent report,[4] however, comes from a general hospital which draws its patients from rural communities where hospitalization is not immediately available.

TABLE 2.—*Causes of Death Other Than Diabetic Acidosis*

Pneumonia, lobar	5
Uremia	4
Septicemia	3
Renal abscesses	1
Carcinoma of cervix, radiation necrosis of bladder	1
Meningitis due to Hemophilus influenzae	1
Pelvic infection (septic course)	2
Total	17

The cause of death was determined clinically in 5 cases and by autopsy in 12

It has been shown by many observers[5] that neither the concentration of dextrose in the blood nor the serum carbon dioxide combining power has any relation with either the degree of acidosis or the mortality rate. We likewise could find no such relation, and these data are therefore not presented. It should be stated, however, that those patients who had been in coma longest exhibited a tendency to have higher concentrations of dextrose and lower carbon dioxide combining power.

The mortality rate in those patients who received sixth-molar solution of sodium lactate was lower than in those who received none (table 3). However, analysis reveals that these figures are not significant statistically.

We have defined the mental state of the patients as follows: Conscious, as the mental state of the patient who is fairly alert; drowsy, the patient who can be aroused by calling or by painless stimulation; semicomatose, one who can be aroused by painful stimulation, and comatose, one who cannot be aroused. Realizing the difficulty and in many instances the impossibility of estimating the length of time that a patient has been in a state of acidosis, we have, for uniformity, classified the patients in three groups according to time. In the first group, those less than twelve hours in coma, are included all patients who were conscious, drowsy, semicomatose and those who had been comatose for less than twelve hours. In the second group are those who were comatose for more than twelve hours and less than twenty-four, while in the third group are those who were comatose for twenty-four hours or longer. In our series the length of time in coma and the mental state were the factors of most prognostic value (table 1).

TABLE 3.—*Comparison of Mortality Rates With and Without Sodium Lactate Therapy*

	Sodium Lactate			No Sodium Lactate		
Hours in Coma	No. of Patients	Deaths	% Mortality	No. of Patients	Deaths	% Mortality
12	59	5	8.5	33	3	9.1
12 to 24	9	7	66.6	9	2	22.2
24	6	3	50.0	3	2	66.6

Among the persons who died from diabetic coma, there were 5 who ante mortem had normal blood sugar and serum carbon dioxide combining power and who showed no lesions at autopsy (table 4). In each of these cases it was noted that the patient had labored respirations, with or without difficulty in swallowing, and died in collapse. No potassium determinations were done in these cases. It can be conjectured that these patients, just as those whose history is given in detail, had abnormally low concentrations of serum potassium.

TABLE 4.—*Laboratory Data in Five Fatal Cases of Diabetic Acidosis*

Patients who died with normal values for carbon dioxide combining power and blood sugar. Autopsy showed no lesions.

History No.	Death, Hours After Admission	CO_2 Combining Power, Vol. %	Blood Sugar, Mg./100 Cc.
23260	72	77	140
A-21065	14	50	170
A-62406	16	59	243
A-08866	14	53	141
B-20428	24	73	96

COMMENT

Smith[6] has reported that in dogs who are fed a diet that is low in potassium, paralysis of various muscle groups will result and, unless therapy is started, death

3. Barnes, R. B.; Richardson, D.; Berry, J. W., and Hood, R. L.: Flame Photometry: A Rapid Analytical Procedure, Indust. & Engin. Chem. **17**: 605, 1945.

4. Hagtvet, J.: Diabetic Coma, Acta med. Scandinav. **114**: 168, 1943.

5. Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: Diabetic Coma, J. A. M. A. **119**: 1160 (Aug. 8) 1942. Root, H. F.: The Use and Abuse of Glucose in the Treatment of Diabetic Coma, ibid. **127**: 557 (March 10) 1945; correction, ibid. **127**: 1068 (April 21) 1945. Collen, M. F.: Mortality in Diabetic Coma, Arch. Int. Med. **70**: 347 (Sept.) 1942. Rabinowitch, I. M.; Fowler, A. F., and Bensley, E. H.: Diabetic Coma: Investigation of Mortalities and Report of Severity Index for Comparative Study, Ann. Int. Med. **12**: 1403, 1939.

in a state of collapse will occur. The administration of biotin will temporarily relieve these dogs, but potassium is necessary before any permanent improvement is noted. Furthermore, the serum potassium concentration is low. It is well recognized that in familial periodic paralysis the concentration of potassium in the serum is low, and that to prevent or to relieve an attack potassium is needed. We believe that the severe muscular weakness that we have seen in patients who apparently have recovered from diabetic acidosis is the result of potassium deficiency.

Several factors may combine to produce the reduction in the serum potassium concentration as noted in the cases reported here: (1) loss of potassium by diuresis and dehydration with resultant loss of intracellular stores of water and potassium; (2) loss of potassium as a result of the effect of insulin, and (3) reduction of serum concentration due to dilution by parenteral fluid with no outside source of potassium.

In careful balance studies on 2 diabetic subjects, Atchley and associates [7] demonstrated that during the period of insulin withdrawal there was an increase in t e excretion of potassium in the urine and that during the recovery phase the excretion of potassium was decidedly reduced. In our case 1 it was observed that 3.6 milliequivalents per liter of potassium were excreted during the first twelve hours. Unfortunately the excretion of potassium in case 2 could not be determined because the patient, who insisted on removing the catheter, was incontinent. In the 2 patients reported by Atchley, no great reduction of the serum potassium concentration at the beginning of the recovery period was found. No further determinations of the serum potassium were made until the end of the recovery period.

Elkinton and Winkler [8] have reported that in dehydration or diuresis not due to diabetic acidosis, loss of potassium in the urine takes place. They expressed the belief that there is also loss of intracellular water and potassium.

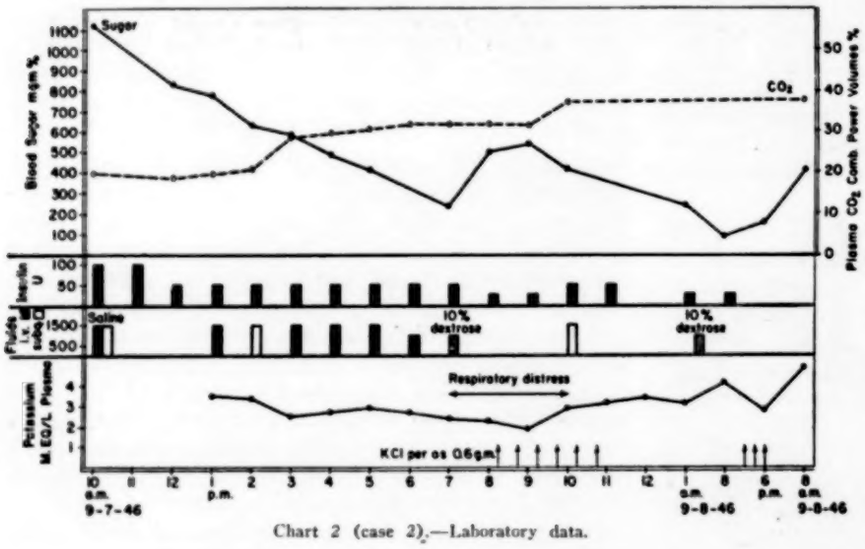

Chart 2 (case 2).—Laboratory data.

Harrop and Benedict [9] reported in 1923 that in patients with diabetes mellitus an injection of insulin produced a decrease of the serum potassium concentration. Briggs and associates [10] and Kerr [11] have shown that in normal dogs the administration of insulin produced a decrease in the concentration of potassium in the serum. Further evidence that insulin reduces the serum potassium has been shown by Aitken and associates in patients with familial periodic paralysis.[12]

In reconstructing the events that took place in the 2 cases reported here, it is apparent that there was a loss of potassium along with water, sodium and chloride, during the period in which the patients received no insulin. In addition to the loss of inorganic base and chloride due to diuresis, a considerable amount was lost in vomitus. After admission to the hospital, insulin and isotonic solution of sodium chloride in large amounts were administered. Further loss of potassium must have taken place at that time along with further decrease in the concentration because of dilution. This is partially confirmed by the fact that there was a steady and continued lowering of the serum potassium concentration while the patients were in the hospital. In case 1 the concentration had fallen to a critical level of 2.4 milliequivalents per liter six hours before death. Unfortunately, the significance of this deficiency was not recognized. In case 2 the serum potassium concentration fell to 1.9 milliequivalents per liter. Actually, enteric-coated potassium chloride by mouth had been given forty-five minutes before the serum was drawn for this determination. The drug had not been absorbed in quantities sufficient to be reflected in the serum at the time that the determination was made. Three hours after potassium chloride had been given to the patient the respiratory distress was completely relieved.

We believe that the potassium deficiency reported by Holler [1] and noted in 2 cases reported here is one of the factors responsible for the high mortality rate in cases of diabetic acidosis at this clinic. It appears that a longer time in coma allows more potassium to be lost from the intracellular stores and from the serum.

SUMMARY

1. Two cases of diabetic acidosis associated with a decrease in the serum potassium concentration are reported.

2. A review of data on patients admitted to Duke Hospital in diabetic acidosis reveals a mortality rate of 18.5 per cent, excluding deaths probably due to other causes.

6. Smith, S. G.: Potassium vs. Biotin in the Treatment of Progressive Paralysis in Dogs, to be published.

7. Atchley, D. W.; Loeb, R. F.; Dickinson, W. R., Jr.; Benedict, E. M., and Driscoll, M. E.: On Diabetic Acidosis: Detailed Study of Electrolyte Balances Following Withdrawal and Reestablishment of Insulin Therapy, J. Clin. Ivestigation **12**: 297, 1933.

8. Elkinton, J. R., and Winkler, A. W.: Transfers of Intracellular Potassium in Experimental Dehydration, J. Clin. Investigation **23**: 93, 1944.

9. Harrop, G. A., and Benedict, E. M.: The Participation of Inorganic Substances in Carbohydrate Metabolism, J. Biol. Chem. **59**: 683, 1924.

10. Briggs, A. P.; Koechig, I.; Doisy, E. A., and Weber, C. J.: Some Changes in the Composition of Blood Due to the Injection of Insulin, J. Biol. Chem. **58**: 721, 1923-1924.

11. Kerr, S. E.: The Effect of Insulin and of Pancreatectomy on the Distribution of Phosphorus and Potassium in the Blood, J. Biol. Chem. **78**: 35, 1928.

12. Aitken, R. S.; Allott, E. N.; Castleden, L. I. M., and Walker, M.: Observations on a Case of Familial Periodic Paralysis, Clin. Sc. **3**: 47, 1937.

COMPOSITE FREE GRAFTS OF SKIN AND CARTILAGE FROM THE EAR

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Composite free grafts from the ear, comprising two surfaces of skin with cartilage between, have proved increasingly useful in the replacement of tissue lost from the nasal tip, nostril borders and columella. The

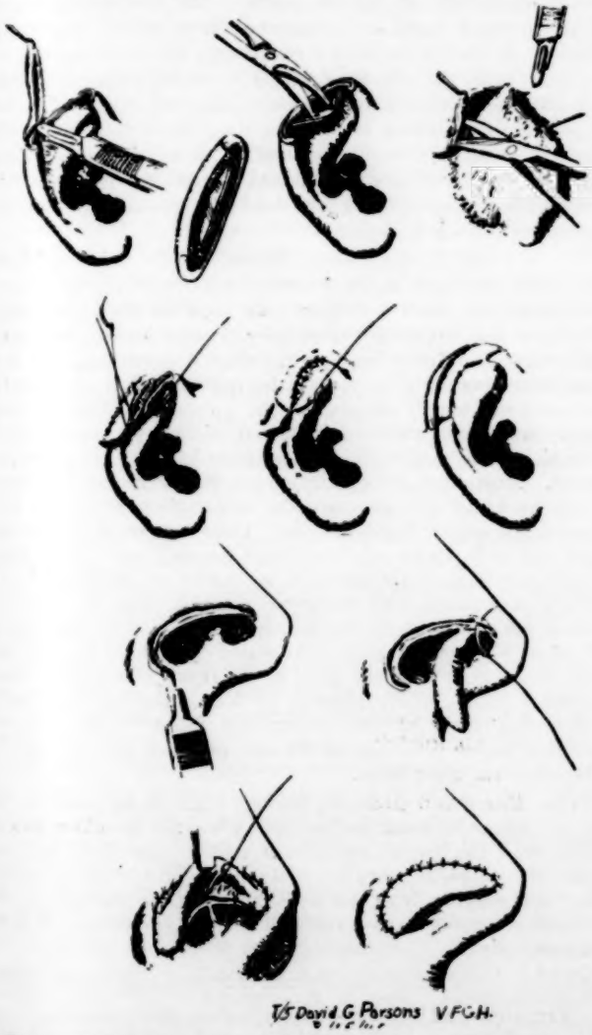

Fig. 1.—Steps in the repair of the nostril border with composite free grafts of skin and cartilage from the ear.

use of a free transplant has made possible repairs in a single procedure with minimal resultant deformity of the ear. Thus, the risk of altering a normal feature in shifting a local flap or the need of multiple procedures in moving a distant flap have been eliminated in correcting these deformities.

Losses from gunshot wounds, burns, injuries and surgical excision are all correctible by this method, but it is doubtful whether grafts over 1 cm. in width can be successfully transplanted. Since the length of the graft is not limited, the columella, tip and one ala can be restored with a single graft, which reproduces almost perfectly the normal curve at the apex of the nostril. To correct a short ala, the alar scar can be opened and a wedge shaped graft inserted; or a constricted nostril

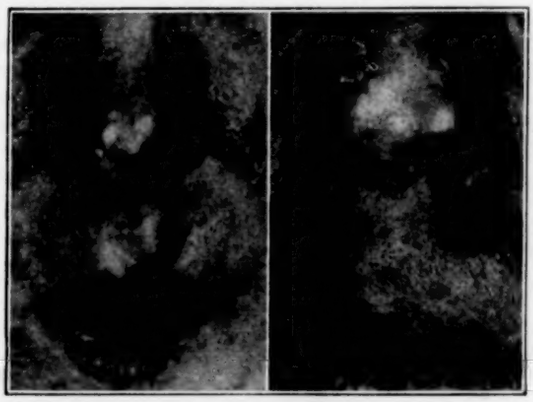

Fig. 2.—Restoration of columella, tip and ala in a single operation with composite free graft. Notching of upper and lower lips has been corrected.

due to a burn can be opened by excision of the scar and repaired with a composite graft. A plaque of skin and cartilage is useful in losses at the tip, but an adequate overlap of skin must be left, since the blood supply develops from the margins, not through the cartilage. Adequate minute blood supply with as much well-vascularized surface as possible available for contact between the nose and the graft is necessary in preparation of the defect for the graft. The removal of all marginal scars will necessarily enlarge the defect but is important to insure an ample supply of blood. Any recent trauma or surgical procedure, such as resurfacing of the dorsum with a free skin graft, is sufficient reason to delay the use of the composite graft until all reaction has subsided.

A pattern of the final defect in the nose is helpful in selecting a suitable part of the ear for the donor area

Fig. 3.—Restoration of margin and base of ala in a single operation with composite free graft.

and important in accurate measurement of the graft. Portions of the normal ear with thin skin over the cartilage are best, but even a partially damaged ear may have enough suitable margin remaining for a large composite graft. The repair of the ear then is merely postponed until it can be combined with the nostril repair. If a long or wide graft is necessary, as in columellar-alar repairs, the rim of the helix is the only

Read before the Section on Laryngology, Otology and Rhinology at the Ninety-Fifth Annual Session of the American Medical Association, San Francisco, July 4, 1946.

This work has been done at Valley Forge General Hospital in association with Major Parke Scarborough, Major Edwin Shearburn, Captain Andrew Moore, Captain Joseph Murray, Lieut. Allyn McDowell and Lieut. Milton Edgerton.

possible source. Smaller grafts may be taken from the crus of the helix and flat grafts from the antihelix or rim of the concha. Separation of cartilage from skin in handling the grafts should be avoided.

Repair of the ear is performed by several methods. Larger excisions require repair with a scalp flap in which the open ear margin is buried. The pedicle is severed and the defect behind the ear grafted two or three weeks later. Smaller excisions can be repaired by direct closure or by a local flap or graft. The resultant deformities are not apparent.

The graft itself is accurately sewed in place usually with a few buried stitches for anchorage and fine stitches for skin approximation. In dressing the graft, adequate immobilization is secured by packing the nostrils and applying gentle but firm resilient pressure externally

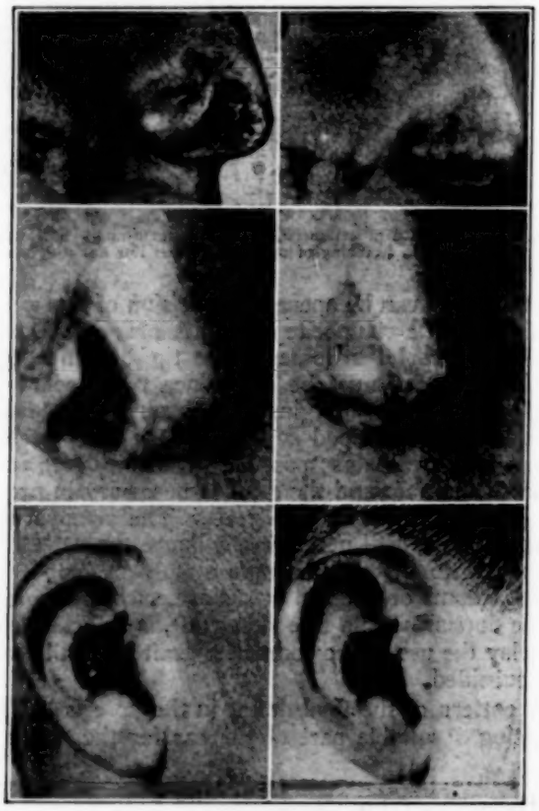

Fig. 4.—Large replacement of nostril defect by use of free composite graft of skin and cartilage in a single operation. Minimal deformity of ear with scalp flap.

with an aluminum splint. Occasionally the grafts become discolored and even blister, but it has been observed that they generally recover, if carefully tended.

SUMMARY

Composite free grafts of skin and cartilage from the ear have proved useful in correcting alar border, tip and columellar defects. Satisfactory repairs can be carried out in a single procedure by this method.

ABSTRACT OF DISCUSSION

Dr. William S. Kiskadden, Los Angeles: Those engaged in plastic surgery are constantly being asked what is new and what advances have been made. The case reports by Dr. Brown and Colonel Cannon represent something really new. Yet when one considers actually what has been presented it is seen that they have used only well known principles which have escaped the rest of us down through the years. They have used their own ingenuity, their technic and their imaginative surgical skill to great advantage. The war, of course, lent its aid in giving them a volume of cases in which, though 1 failure might have deterred them, they could proceed to a series as great as has been reported. There are other methods, of course, whereby repairs of this sort may be accomplished, but none, I think, that lend themselves as satisfactorily as this. Recently Dupurtuis, of Pittsburgh, brought out a procedure quite similar in technic wherein he utilized the lobe of the ear. Here again the matching of the tissue was comparable to the matching that was obtained by Dr. Brown and Colonel Cannon. The advantage is that the lobe can be simply and easily repaired. Another method offers itself. It entails additional operative procedures, but occasionally with advanced scarring and an inadequate blood supply, possibly secondary to a rather severe burn, possibly secondary to the bringing down of a forehead flap, tissue from the ear can be still utilized. This method, I believe, was first put forward by a South American and consists in implanting into the palmar aspect of the thumb that amount of tissue which needs to be employed in the graft. Obviously, recourse to such a procedure would only be taken because the surgeon feared that the blood supply of the recipient area would not take the cartilaginous and double skin flap. The utilization of rotation flaps, either from above the nose or from the cheek, likewise should not be lost sight of. I do not believe that any one operative procedure will always answer the problems that attend these apparently minor defects, yet defects which are extremely difficult to repair.

Dr. Walter B. Macomber, Albany, N. Y.: It is a privilege to discuss this paper of Dr. Barrett Brown and Colonel Cannon. It demonstrates what a surgeon must have for the advancement of plastic and reconstructive surgery, forever looking for something new to help to improve technics of years past. It is a one stage procedure as far as the reconstruction of the nose is concerned, but in many cases the ear means a two or more stage procedure, and reconstruction of the ear is decidedly difficult. It is one of the hardest parts of the body to reconstruct. Most nasal deformities during this war were secondary to burns which did not spare the vulnerable ear, thereby preventing the use of this donor site. There was so much scarring that the little tissue left could not be used as a free graft. Nasal deformities, except those secondary to malignancy, are usually associated with extensive scarring, and the recipient site is not conducive to the taking of even a thick split graft, let alone a composite graft. As stated by Colonel Cannon, the size of the graft will lend itself to the repair of relatively small defects. The possible chances of losing the graft in hands other than those of Dr. Brown and Colonel Cannon would create a major deformity of the ear, provided the deformity of the nose was quite large.

Col. Bradford Cannon, Boston: There is not much for me to add except to thank the two men who have been kind enough to discuss this paper and to say that I hope those who are interested in plastic surgery of the nose will try this procedure and see whether it is not as simple and satisfactory as any procedure which was ever utilized in correction of these deformities.

Emotion and Illness.—Every person reacts emotionally in his own fashion to environmental demands, whether these include accidents, infections, laws, enforced association, fishing trips, garden clubs or bad weather. The significant fact is that every one reacts and that every one develops body symptoms if the emotional stimulus is sufficiently strong. . . . Ordinarily the symptoms are of short duration, subsiding with the removal of the stimulus. If adjustment to the environmental demands is faulty, the individual takes recourse to anxiety, headaches, nausea and vomiting, amblyopia or obsessions. Individuals suffering from psychosomatic ailments do not always show manifest symptoms of emotional imbalance; therefore the psychic factors which are underlying or complicating their condition often remain undetected, and his fact may delay or prevent recovery.—Caveny, Elmer L.: Emotion: The Etiologic Relation to Illness, Naval Medical Bulletin, May-June 1947.

Clinical Notes, Suggestions and New Instruments

FATAL PEDICULICIDE POISONING (ABSORPTION THROUGH SCALP)

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The following is the report of a fatal case with autopsy observations in which death resulted from the use of a pediculicide containing picrotoxin and veratrine. No other similar case has been found in the medical literature.

Picrotoxin and veratrine are commonly used as ointments, powders or liquid preparations in the treatment of pediculosis, scabies and other parasitic diseases of skin in both man and animals. These drugs if used cautiously are effective, but when they are used indiscriminately there is considerable danger because of the large areas of skin available for absorption of the compounds. The pediculicide used in this case, "kil-ve," has for its active ingredients fishberry and sabadilla seed, which are extracted in isopropyl alcohol 72 per cent and water 27.5 per cent.

Picrotoxin is derived from cocculus indicus (the seed of Anamirta paniculata, or fishberry; used for poisoning fish, adulterating beer, and in "knockout drops"). The external use against pediculi has given rise to toxic effects.[1] The symptoms of poisoning in man consist of burning sensation, nausea, salivation, cold sweat, pallor, colic, vomiting, diarrhea, palpitation and shallow respiration; the pulse rate may be slowed or quickened. These are rapidly followed by confusion, stupor and unconsciousness. After one-half to three hours, trembling, clonic and tonic convulsions appear. These generally pass into paralysis and death by asphyxiation.

Picrotoxin ⅓ grain (0.022 Gm.) has caused unpleasant symptoms, and from experiments on animals it is thought that 2 or 3 grains (0.13 or 0.195 Gm.) would be a dangerous dose for man. Death is said to have resulted, however, from 36 grains (2.4 Gm.) of powdered berries; this would equal about ⅓ grain (0.022 Gm.) of picrotoxin. An interesting sidelight is that patients poisoned by barbituric acid derivatives are able to take doses of picrotoxin ranging from 1.079 to 2.296 Gm.[2]

Death from gastrointestinal absorption may occur within thirty minutes to three hours. In Thompson's case,[3] in which the drug was absorbed from the skin, death occurred in six hours.

The postmortem observations are those of asphyxia with hyperemia and edema of the lungs and brain. No really characteristic findings have been observed in man.

Veratrine is a mixture of alkaloids extracted from sabadilla seeds. Therapeutically it is used as a counterirritant in neuralgic conditions. In the form of sabadilla seeds it is used as a parasiticide against pediculi capitis. The irritation is severe, and absorption has caused serious symptoms.[4] When veratrine is taken internally toxic symptoms may appear in man in twenty minutes or be delayed for an hour or more. Symptoms begin with prickling and burning of the mouth, followed by sensation of warmth and burning in the stomach. There is great thirst and difficulty in swallowing. Then follows salivation, nausea and persistent vomiting. Colic and abdominal pain may also be present. Death is due to cardiac and respiratory failure. Postmortem observations are not characteristic, although congestion of the gastrointestinal tract and brain are found.

From the Department of Pathology of University of Maryland School of Medicine, and Office of Medical Examiner, Baltimore.

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2. Burdick, D. L., and Rovenstine, E. A.: Picrotoxin in Barbiturate Poisoning, Ann. Int. Med. **22**: 819 (June) 1945.
3. Cited by Peterson, F.; Haines, W. S., and Webster, R. W.: Legal Medicine and Toxicology, Philadelphia, W. B. Saunders Company, 1926, vol. 2, p. 765.
4. Sollmann.[1]

REPORT OF CASE

History.—V. B., a white girl aged 2 years, was first seen in the Baltimore city mortuary. The history obtained from the mother was that the child had head lice and that for the past month she had been using a pediculicide called "kil-ve." The mother claimed that the child had never been sick and had been active before death. She put her to bed at 4 p. m. and when she returned at 7 p. m. the child was dead.

The mother denied that the child could have taken any of the pediculicide by mouth, either directly or indirectly. According to her story she used the whole 2¾ ounce (81 cc.) bottle (directions called for 2 or 3 tablespoonfuls, 30 to 45 cc.) in one application. She could not give the time of the last application, but the child's hair contained the preparation when it was examined in the mortuary.

The mother's story was not taken as too reliable.

Autopsy.—The body was that of a well developed and well nourished white girl whose hair was covered with a myriad of live lice. The hair pulled out easily, taking with it patches of scalp. There was no external evidence of injury or violence. The pupils were central and equal. There was a slight frothy secretion from the nose and mouth. The neck contained no enlarged glands. The chest and abdomen were of normal contour. The extremities and genitalia showed nothing of note.

The body was opened, and all the organs were normally disposed. The pleural cavities were dry. The peritoneum was smooth and glistening, and no free fluid was present.

The heart showed slight right ventricular dilatation, otherwise no abnormality was present. The myocardium was of good tone.

The lungs were somewhat congested and exuded a frothy fluid. Their external surfaces were smooth. There was a slight injection of the larger bronchi. Vascular or bronchial obstruction was not present.

The thymus was small and on section revealed normal architecture.

The liver was paler than is usual. The external surface was smooth, and on section there was a uniformity of structure.

The spleen was of normal size, and the pulp was somewhat friable.

The adrenals both externally and on cut section showed nothing of note.

The kidneys were of normal size and consistency. On section there were definite demarcations between the cortices and medullae. The pelves were pale. The ureters were of normal caliber. The bladder contained about 300 cc. of pale urine. The mucosa was pale, and the wall was of normal thickness.

The stomach contained about 30 cc. of bile-stained liquid and food particles. The mucosa showed no evidence of erosion or inflammation. The intestines manifested no gross changes.

The brain exhibited pronounced edema as evidenced by flattening of all convolutions. No exudates or hemorrhages were present.

Microscopic Observations.—Except for the liver, lungs and brain there were no remarkable or significant changes in any of the organs. The brain showed much edema. The cells were well preserved. The liver manifested moderate cell necrosis around the central veins. This process was no more pronounced than that seen in congestive changes. Various sections taken from the lungs all exhibited fairly well defined edema and congestion. The alveoli were filled with acellular fluid. The alveolar walls were thickened by edema and dilated vessels containing red blood cells. No evidence of inflammation was present.

Toxicologic Examination.—The stomach contents, liver and brain were used in the toxicologic examination.[5] The stomach contents were negative. The extracts of liver and brain both revealed the presence of picrotoxin and veratrine. The residue from 120 Gm. of liver yielded 1 mg. of picrotoxin. Veratrine was found only in traces.

5. Examination by Henry C. Freimuth, Ph.D., Office of Medical Examiner, Baltimore, Md.

COMMENT

It can be concluded, in the absence of any changes in the stomach or intestines and in view of the negative stomach contents, that the presence of picrotoxin and veratrine in the liver and brain was the result of absorption from the scalp. The concentration of picrotoxin was sufficient to cause death. The role played by the traces of veratrine is believed to be of minor importance in this case.

This case illustrates the importance of absorption from the skin. The various preparations which are used for treatment of the skin and scalp are no doubt partially absorbed. Care must be taken in the selection and use of these preparations. Work on the permeability of skin conclusively shows that many substances are absorbed and may be recovered in blood, urine or exhaled air. Lipoid solubility is not the only condition for absorption by the skin; inorganic salts are also absorbed in small quantities.[6]

SUMMARY

Preparations containing picrotoxin, veratrine or a combination of both are frequently used in treatment of parasitic conditions of the skin. Absorption through the skin may give rise to toxic symptoms and even death. The manner of death, the presence of pulmonary and cerebral edema, the absence of any specific observations at autopsy and the recovery of the drug from the organs are compatible with the action of picrotoxin and veratrine.

MYOKYMIA—A CAUSE OF "RESTLESS LEGS"

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The purpose of this article is to point out an entity, not previously considered, which can give rise to the complaints described as "restless legs." This manifestation has been termed myokymia. It is characterized by the occurrence of irregular fascicular twitching of the muscles.

It is observed most frequently in neurotic persons, in those in debilitated states and in the elderly. The patients complain of a crawling sensation in the skin of the calves and thighs and occasionally of other parts of the body. This is most disturbing when the patient is fatigued and is relaxing, as on retiring. The sensation of crawling under the skin is often accompanied by an unpleasant fatigued aching of the muscle. The twitching tends to disappear during the night, to reappear shortly after waking and to increase during the day. It is intensified by exercise, nervous tension or cold. Persons suffering from this condition are also subject to muscular cramps, especially if the feet are cold or if the muscles are contracted strongly in the shortened position.

The fasciculation is most easily observed by having the patient lie face down with the calves exposed and in a good light. Under these conditions, and with the feet held in plantar flexion by the bed, the muscles of the calf are shortened and relaxed. Observation over a period of from one to five minutes will disclose the occurrence of occasional flickering movements of the skin which are caused by fasciculation of the underlying muscle. If the muscle is tapped with a reflex hammer the twitching is increased.

Although it has been stated by some observers[2] that the twitching of myokymia can be distinguished from the fasciculation observed in anterior horn cell disease, others[3] have been unable to make this distinction either by clinical observation or by electromyogram. However, the two conditions can be distinguished by the lack of muscular atrophy in myokymia as well as by the lack of reflex abnormalities. It has also been suggested that twitching of this sort is always a precursor of atrophy due to organic disease of the nervous system. It is true that in amyotrophic lateral sclerosis twitching may appear several months before there is evident weakness or atrophy. However, the occurrence of twitching of the muscles of the calf is a not infrequent occurrence in normal persons, and I have personally followed a patient with active myokymia for ten years and have found no evidence of organic disease.

The administration of small doses of neostigmine bromide (0.5 mg.) causes a great increase in the twitching,[4] and this fact suggests that the fasciculation produced by the drug and that observed in myokymia have a common origin. This probably represents either a high level of acetylcholine at the nerve ending or possibly an increased irritability of this structure.[5] The fasciculation observed in anterior horn cell disease probably has a similar peripheral origin, although the mechanism of its development may be different.[5b]

The twitching of myokymia is disturbing only to the neurotic patient, and many other persons are completely unaware of it. Treatment is therefore primarily a matter of reassurance and redirection of the patient's interest away from this unimportant symptom. The administration of small subcurarizing doses of a curare preparation will stop the twitching at a dosage level far less than that required for curarization,[6] and it is probable that the use of the newly developed preparation of curare in oil[7] would be effective in this condition. It is questionable, however, whether such treatment is justifiable in view of the lack of importance of the symptom involved.

6. Burgi, E.: Permeability of the Skin to Various Substances, Wien. klin. Wchnschr. **49**: 1545 (Dec. 18) 1936.

Assistant Professor of Neuropsychiatry, Bowman Gray School of Medicine.

1. Footnote deleted on proof.
2. Denny-Brown, D., and Pennybacker, J. B.: Brain **61**: 311, 1938.
3. Ford, F. R.: Bull. Johns Hopkins Hosp. **64**: 114, 1939.
4. Russel, C. K.; Odom, G., and McEachern, D.: Tr. Am. Neurol. A. **64**: 120, 1938.
5. (*a*) Masland, R. L., and Wigton, R. S.: J. Neurophysiol. **3**: 269, 1940. (*b*) Eccles, J. C.; Katz, B., and Kuffler, S. W.: ibid. **5**: 211, 1942.
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7. Schlesinger, Edward B.: Am. J. Med. **1**: 518, 1946.

Council on Foods and Nutrition

ACCEPTED FOODS

The following foods, which are used primarily in the feeding of infants and small children, have been accepted as conforming to the Rules of the Council on Foods and Nutrition of the American Medical Association.

JAMES R. WILSON, M.D., *Secretary.*

PREPARATIONS USED IN THE FEEDING OF INFANTS

Libby, McNeill and Libby, Chicago.

LIBBY'S STRAINED AND HOMOGENIZED SQUASH consists of squash, salt and water.

Analysis (submitted by manufacturer).—Total solids 9.05%, moisture 90.95%, protein (N × 6.25) 0.75%, fat (ether extract) 0.05%, ash 1.14%, crude fiber 0.85%, carbohydrates other than crude fiber (by difference) 6.26%.

Calories.—0.29 per gram; 8.23 per ounce.

Vitamins and Minerals.—	Per Hundred Grams
Vitamin A	1,562 U. S. P. units
Thiamine	0.013 mg.
Riboflavin	0.042 mg.
Ascorbic acid	4.90 mg.
Niacin	0.420 mg.
Salt	700.00 mg.
Calcium	44.10 mg.
Phosphorus	12.20 mg.
Iron	0.30 mg.

Libby, McNeill and Libby, Chicago.

LIBBY'S STRAINED AND HOMOGENIZED VEGETABLES WITH BACON AND BARLEY consists of water, tomato juice, carrots, sweet potatoes, potatoes, bacon, barley, celery, onions and salt.

Analysis (submitted by manufacturer).—Total solids 14.73%, moisture 85.27%, protein (N × 6.25) 1.59%, fat (ether extract) 3.20%, ash 0.96%, crude fiber 0.47%, carbohydrates other than crude fiber (by difference) 8.51%.

Calories.—0.71 per gram; 20.16 per ounce.

Vitamins and Minerals.—	Per Hundred Grams
Vitamin A	4,301 U. S. P. units
Thiamine	0.038 mg.
Riboflavin	0.022 mg.
Ascorbic acid	2.40 mg.
Niacin	0.61 mg.
Salt	670.00 mg.
Calcium	15.70 mg.
Phosphorus	34.70 mg.
Iron	0.63 mg.

MEDICAL EDUCATION IN THE UNITED STATES AND CANADA

FORTY-SEVENTH ANNUAL REPORT ON MEDICAL EDUCATION IN THE UNITED STATES AND CANADA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Donald G. Anderson, M.D., F. H. Arestad, M.D., and Anne Tipner

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This report is the forty-seventh annual compilation of information and statistics on medical education in the United States and Canada by the Council on Medical Education and Hospitals of the American Medical Association.

For the first time in several years the report contains specific information concerning the financial support of undergraduate medical education in this country. In addition to the various statistics concerning medical schools, students and graduates that are regularly included in this report, several subjects of present interest are discussed. These include formal basic science training for hospital residents, the academic performance of veterans, the production of physicians during the past ten years and the continuation of the accelerated program.

For the first time since 1942 the paper supply has permitted the inclusion of a detailed summary of the requirements of the various examining boards in the medical specialties. The full text of the "Essentials of Approved Residencies and Fellowships" as revised to June 9, 1947 is also presented.

The hospitals approved for internships, residencies and fellowships have been listed. Separate reprints of these lists are available for distribution in addition to the reprints of the complete report.

The data presented in this review are obtained from official reports. The Council and THE JOURNAL express their sincere gratitude and appreciation to the officers of the medical schools, hospitals and other agencies whose cordial and continuing cooperation makes possible each year the compilation and presentation of this body of fundamental information concerning medical education in the United States and Canada.

Medical School Calendars

This 1947 Educational Number presents data for the 1946-1947 academic year. Some irregularity of medical school calendars persists as a consequence of the accelerated program. It is necessary therefore that the sessions that are reported in this Educational Number be identified by specific dates for each school. This has been done for the four year schools in the United States in table 1, for the medical schools in Canada in table 2 and for the schools of the basic medical sciences in the United States in table 3.

Freshman classes for the academic year 1946-1947 began in September or October in all but six schools which had admitted classes earlier in the year. Four schools (Louisville, Minnesota, Marquette, Mississippi) admitted two freshman classes.

Tables 1, 2 and 3 also give the dates of the next two entering freshman classes. For the academic years 1947-1948 and 1948-1949 freshmen will be admitted in September or October by all but two schools. Utah has established June as the month for the admission of freshmen in these years, and Tennessee will admit freshmen quarterly in September, December, March and June. Mississippi, in addition to admitting a class in September, is planning to admit a second freshman class in January or February as a regular practice.

The data on graduates are for the thirteen month period June 1, 1946 to June 30, 1947. All the four year schools graduated at least one class during this period. Ten schools, excluding the schools on the quarter system, graduated two classes. For four of these schools (Alabama, Stanford, Buffalo and Syracuse) no graduations were reported in the 1945-1946 Educational Number. The other six schools graduated classes early in the period covered by that number.

TABLE 1.—*Admission and Graduation Calendars of Medical Schools in the United States*

SCHOOL	Freshman Classes Included in This Educational Number: Date of First Class	Freshman Classes Included in This Educational Number: Date of Second Class	Dates of Next Two Entering Classes		Graduating Classes Included in This Educational Number: Date of First Graduation	Graduating Classes Included in This Educational Number: Date of Second Graduation	Dates of Next Two Graduating Classes	
Medical College of **Alabama**	10- 7-46	.....	10- 6-47	10- 4-48	10-25-46	6-10-47	.....	6-11-49
University of **Arkansas** School of Medicine	9-30-46	.....	9-29-47	9-27-48	6-24-46	6-23-47	6-21-48	6-20-49
University of **California** Medical School	9-19-46	.....	9-18-47	9-48	9-19-46	6-21-47	6-19-48	6-49
College of Medical Evangelists	9-22-46	.....	9-21-47	9-19-48	1- 2-47	.....	6-13-48	6-12-49
University of Southern California School of Medicine	9-16-46	.....	9-15-47	9-13-48	6-14-47	.....	6-15-48	6-11-49
Stanford University School of Medicine	9-23-46	.....	9-29-47	9-27-48	6-16-46	6-15-47	6-13-48	6-15-49
University of **Colorado** School of Medicine	9-30-46	.....	10- 6-47	10- 6-48†	6- 9-47	.....	6-14-48	6-14-49†
Yale University (**Connecticut**)	9-16-46	.....	9-22-47	9-20-48	6-18-47	.....	6-23-48	6-15-49
Georgetown University (**District of Columbia**)	9-16-46	.....	9-22-47	9-20-48	6- 9-47	.....	6- 7-48	6- 6-49
George Washington University	9-30-46	.....	9-15-47	9-13-48	5-28-47	.....	5-26-48	5-25-49
Howard University College of Medicine	9-28-46	.....	9-27-47	9-25-48	6- 7-46	6- 6-47	6- 4-48	6- 3-49
Emory University School of Medicine (**Georgia**)	9-24-46	.....	9-18-47	9-48	2-28-47	.....	6- 5-48	6-49
University of Georgia School of Medicine	9- 9-46	.....	9-11-47	9- 9-48	3-24-47	.....	3-22-48	6-20-49
Loyola University (**Illinois**)	9-30-46	.....	9-22-47	9-48†	2- 9-47	.....	3-29-48	6-49†
Northwestern University Medical School	9-27-46	.....	9-26-47	9-24-48	*	.....	§	§
University of Chicago, The School of Medicine	9-24-46	.....	9-24-47	9-48	¶	.....	#	#
University of Illinois College of Medicine	9-30-46	.....	9-30-47	9-28-48	6-21-46	6-20-47	6-19-48	6-18-49
Indiana University School of Medicine	10-18-46	.....	9-22-47	9-20-48	6-15-47	.....	6-15-48	6-11-49
State University of **Iowa** College of Medicine	9-23-46	.....	9-22-47	9-20-48	3-15-47	.....	3-13-48	6-49
University of **Kansas** School of Medicine	9-26-46	.....	9-17-47	9-48	6-16-47	.....	6- 7-48	6-49
University of Louisville (**Kentucky**)	4- 1-46	1- 6-47	9-29-47	9-13-48	12-21-46	.....	9-20-47	6-15-48
Louisiana State University School of Medicine	9- 9-46	.....	9- 4-47	9- 9-48	3-12-47	.....	5-24-48	5-28-49
Tulane University School of Medicine	9- 3-46	.....	9- 2-47	9- 1-48	6-11-47	.....	6- 9-48	6- 9-49
Johns Hopkins University (**Maryland**)	9-30-46	.....	9-29-47	9-27-48	6-10-47	.....	6- 8-48	6-14-49
University of Maryland School of Medicine	9- 5-46	.....	9-18-47	9-16-48	6- 7-47	.....	6- 5-48	6- 4-49
Boston University (**Massachusetts**)	9-19-46	.....	9-15-47	9-48	5-26-47	.....	6- 7-48	6-49
Harvard Medical School	9-23-46	.....	9-22-47	9-27-48	6- 5-47	.....	6-10-48	6-23-49
Tufts College Medical School	9-25-46	.....	9-24-47	9-48	6-15-47	.....	6-20-48	6-49
University of **Michigan** Medical School	9-23-46	.....	9-22-47	9-20-48	12-14-46	.....	6-12-48	6-49
Wayne University College of Medicine	7- 8-46	.....	9-15-47	9-48	6-12-47	.....	6-15-48	6-49
University of **Minnesota** Medical School	4- 1-46	1- 6-47	9-29-47	10- 1-48	12-19-46	.....	8-29-47	6-48
St. Louis University (**Missouri**)	9-17-46	.....	9-16-47	9-21-48	6- 3-47	.....	6- 1-48	6- 7-49
Washington University School of Medicine	9-16-46	.....	9-22-47	9-20-48‖	6-12-47	.....	6- 8-48	6- 7-49‖
Creighton University (**Nebraska**)	9-27-46	.....	9-26-47	9-25-48	6- 5-47	.....	6- 3-48	6-49
University of Nebraska College of Medicine	9-13-46	.....	9-19-47	9-48	3-28-47	.....	3-20-48	6-49
Albany Medical College (**New York**)	9-30-46	.....	9-47	9-48	5-28-47	.....	6-48	5-49
Long Island College of Medicine	9-23-46	.....	9-22-47	9-20-48	2-27-47	.....	6-10-48	6- 4-49
University of Buffalo School of Medicine	9-30-46	.....	9-22-47	9-20-48	6-22-46	6- 4-47	6- 9-48	6-11-49
Columbia University	9-12-46	.....	9-11-47	9-48	6- 3-47	.....	6- 1-48	6-49
Cornell University Medical College	9-26-46	.....	9-24-47	9-48	3-28-47	.....	3-26-48	6-49
New York Medical College	9- 9-46	.....	9-15-47	9-13-48	6-11-47	.....	6- 9-48	6- 8-49
New York University College of Medicine	9-23-46	.....	9-22-47	9-48	6-11-47	.....	6-48	6-49
University of Rochester School of Medicine	9-16-46	.....	9-22-47	9-48	3-15-47	.....	3-27-48	6-49
Syracuse University College of Medicine	9- 2-46	.....	9- 8-47†	9-48	6-23-46	6- 2-47	6-14-48	6-49
Duke University School of Medicine (**North Carolina**)	10- 7-46	.....	10- 6-47	10- 4-48	6- 2-47	.....	5-31-48	6-10-49
Bowman Gray School of Medicine	9-25-46	.....	9-29-47	10- 4-48	12-15-46	.....	12-14-47	12-18-48
University of Cincinnati (**Ohio**)	9-20-46	.....	9-22-47	9-48	2- 8-47	.....	2-48	6-49
Western Reserve University School of Medicine	9-18-46	.....	9-17-47	9-15-48	6-11-47	.....	6- 5-48	6- 4-49
Ohio State University College of Medicine	10- 1-46	.....	9-30-47	10- 5-48	3-15-47	.....	3-19-48	12-48
University of **Oklahoma** School of Medicine	9-16-46	.....	9-15-47	9-13-48	6- 2-47	.....	5-31-48	6- 6-49
University of **Oregon** Medical School	10- 2-46	.....	9-30-47	10-4-48	6-20-47	.....	6-18-48	6-49
Hahnemann Medical College (**Pennsylvania**)	9-22-46	.....	9-22-47	9-48	4- 3-47	.....	3-18-48	6-49
Jefferson Medical College of Philadelphia	10- 1-46	.....	9-11-47	9-13-48‖	5-23-47	.....	6- 4-48	6- 4-49‖
Temple University School of Medicine	9-16-46	.....	9-22-47	9-48	6-19-47	.....	6-17-48	6-49
University of Pennsylvania School of Medicine	9-23-46	.....	9-22-47	9-20-48	3-15-47	.....	3-48	6-15-49
Woman's Medical College of Pennsylvania	9-11-46	.....	9- 8-47	9- 7-48	6- 6-47	.....	6- 5-48	6- 5-49
University of Pittsburgh School of Medicine	9-30-46	.....	9-29-47	9-27-48‖	4-11-47	.....	4- 9-48	6- 5-49
Medical College of the State of **South Carolina**	9-26-46	.....	9-25-47	9-23-48	6- 5-47	.....	6- 3-48	6- 2-49
University of **Tennessee** College of Medicine	9-30-46	.....	§	§	‡	.....	§	§
Meharry Medical College	9-30-46	.....	9-29-47	9-48	6-24-46	6- 2-47	6-21-48	6-49
Vanderbilt University School of Medicine	9-23-46	.....	9-22-47	9-48	6- 9-47	.....	6- 7-48	6-49
Southwestern Medical College (**Texas**)	9-30-46	.....	9- 1-47	9-48	6-10-46	6- 3-47	6- 7-48	6-49
University of Texas School of Medicine	9-23-46	.....	9-15-47	9-20-48	2-14-47	.....	2-13-48	6-18-49
Baylor University College of Medicine	9- 9-46	.....	10- 6-47	10- 4-48	5-26-47	.....	6-14-48	6- 6-49
University of **Utah** School of Medicine	6-11-46	.....	6-16-47	6-48	12-22-46	.....	8-24-47	9-49
University of **Vermont** College of Medicine	9-14-46	.....	9-20-47	9-20-48	4-15-47	.....	6-21-48	6-20-49
University of **Virginia** Department of Medicine	4- 5-46	.....	9-15-47	9-48	6-16-47	.....	6-14-48	6-49
Medical College of Virginia	9-18-46	.....	9-10-47	9-48	6-17-47	.....	6- 8-48	6-49
University of **Wisconsin** Medical School	9-23-46	.....	9-29-47	9-28-48	5-24-47	.....	6-19-48	6-18-49
Marquette University School of Medicine	11-12-46	3- 4-46	9-29-47	.....	11- 2-46	.....	7-31-47	6-30-48

* June 19, 1946; Sept. 27, 1946; March 20, 1947; June 18, 1947.
† Approximate.
‡ June, September, December 1946, March and June 1947.
§ September, December, March and June.
¶ June 14, 1946; December 1946; March 21, 1947 and June 1947.
# Dec. 19, 1947; March 19, 1948 and June 18, 1948.
‖ Tentative.

TABLE 2.—*Admission and Graduation Calendars of Medical Schools in Canada*

SCHOOL	Freshman Classes: Class Included in This Educational Number	Freshman Classes: Dates of Next Two Classes		Graduation Dates: Class Included in This Educational Number	Graduation Dates: Dates of Next Two Classes	
University of Alberta Faculty of Medicine	9-16-46	9-16-47	9-13-48	10- 5-46	5-19-48	5-15-49
University of Manitoba Faculty of Medicine	9-13-46	9-14-47	9-15-48	7-18-46	5-15-48	5-15-49
Dalhousie University Faculty of Medicine	9-10-46	9- 9-47	9- 9-48	5-13-47	5-11-48	5-11-49
Queen's University Faculty of Medicine	9-23-46	9-22-47	Fall 48	6-19-47	.....	.....
University of Western Ontario Faculty of Medicine	9- 9-46	9- 8-47	9-13-48	6-11-47	6- 2-48	6-13-49
University of Toronto Faculty of Medicine	9-24-46	9-23-47	9-21-48	6-27-47	6-25-48	5-28-49
McGill University Faculty of Medicine	9- 4-46	9- 3-47	9- 8-48	5-28-47	5-26-48	5-18-49
University of Montreal Faculty of Medicine	9-16-46	9-15-47	9-13-48	3- 7-47	5-31-48	5- 6-49
Laval University Faculty of Medicine	9-12-46	9-17-47	9-15-48	7- 1-46	6-30-48	6-10-49
University of Saskatchewan School of Medical Sciences	9-21-46	9-22-47	9-21-48	.....	.....	.....

In table 4 is recapitulated the number of graduations, with dates, which have been held by each of the medical schools in the United States since July 1, 1942, the date on which most schools began wartime acceleration. During the five year period July 1, 1942 to June 30, 1947 a total of 406 graduations have been held. This figure does not include the graduations at Tennessee, which were on a quarterly schedule.

On the prewar schedule of one graduation class for each medical school per calendar year, the number of graduations that would have normally been held during this period by the medical schools in the United States, excluding Tennessee, would have been 136. The accelerated program thus made possible the training and graduation of seventy additional classes in the five year period.

TABLE 3.—*Admission Calendars of Schools of the Basic Medical Sciences in the United States*

SCHOOL	Freshman Classes Included in This Educational Number		Dates of Next Two Entering Classes	
	Date of First Class	Date of Second Class		
University of **Mississippi** School of Medicine	9-24-46	1-30-47	9-16-47	2- 9-48
University of **Missouri** School of Medicine	9-21-46	.....	9-16-47	9-48
Dartmouth Medical School, **(New Hampshire)**	9-30-46	.....	10- 3-47	9-30-48
University of **North Carolina** School of Medicine	9-16-46	.....	9-22-47	9-48
University of **North Dakota** School of Medicine	9-23-46	.....	9-24-47	9-22-48
University of **South Dakota** School of Medicine	9-16-46	.....	9- 8-47	9- 6-48
West Virginia University School of Medicine	9-16-46	.....	9-15-47	9-14-48

TABLE 4.—*Medical School Graduations in the United States, July 1, 1942-June 30, 1947*

	1	2	3	4	5	6	7
Medical College of **Alabama**	10-46	6-47	....	....	....	....	....
University of **Arkansas**	6-43	3-44	12-44	9-45	6-46	6-47	....
College of Medical Evangelists, **(California)**	2-43	10-43	10-44	6-45	2-46	9-46	6-47
Stanford University	6-43	1-44	10-44	6-45	6-46	6-47	....
University of California	2-43	1-44	6-44	1-45	9-45	1-47	....
University of Southern California	1-43	7-43	3-44	2-45	1-46	6-47	....
University of **Colorado**	3-43	12-43	9-44	6-45	3-46	6-47	....
Yale University, **(Connecticut)**	3-43	12-43	9-44	6-45	3-46	6-47	....
George Washington University, **(District of Columbia)**	2-43	11-43	9-44	5-45	2-46	5-47	....
Georgetown University	3-43	12-43	9-44	6-45	3-46	6-47	....
Howard University	6-43	3-44	12-44	9-45	6-46	6-47	....
Emory University, **(Georgia)**	3-43	12-43	9-44	6-45	3-46	2-47	....
University of Georgia	3-43	12-43	9-44	6-45	3-46	3-47	....
Loyola University, **(Illinois)**	4-43	12-43	9-44	7-45	4-46	2-47	....
Northwestern University	6-43	12-43	9-44	6-45	3-46	3-47	....
University of Chicago	6-43	12-43	9-44	6-45	3-46	3-47	....
University of Illinois	3-43	12-43	12-44	9-45	6-46	6-47	....
Indiana University	12-42	8-43	4-44	12-44	8-45	4-46	6-47
State University of **Iowa**	2-43	12-43	9-44	6-45	3-46	3-47	....
University of **Kansas**	5-43	1-44	10-44	6-45	3-46	6-47	....
University of Louisville, **(Kentucky)**	2-43	11-43	9-44	6-45	3-46	12-46	....
Louisiana State University	3-43	12-43	9-44	6-45	3-46	3-47	....
Tulane University	5-43	2-44	10-44	8-45	5-46	6-47	....
Johns Hopkins University, **(Maryland)**	2-43	11-43	8-44	6-45	3-46	6-47	....
University of Maryland	3-43	12-43	9-44	6-45	3-46	6-47	....
Boston University, **(Massachusetts)**	3-43	12-43	9-44	6-45	3-46	5-47	....
Harvard Medical School	3-43	12-43	9-44	6-45	3-46	6-47	....
Tufts College Medical School	3-43	12-43	9-44	6-45	3-46	6-47	....
University of **Michigan**	2-43	10-43	7-44	9-45	12-46	....	....
Wayne University	3-43	12-43	9-44	6-45	3-46	6-47	....
University of **Minnesota**	6-43	12-43	8-44	6-45	3-46	12-46	....
St. Louis University, **(Missouri)**	2-43	11-43	9-44	6-45	2-46	6-47	....
Washington University	3-43	12-43	9-44	6-45	3-46	6-47	....
Creighton University, **(Nebraska)**	3-43	12-43	9-44	6-45	3-46	6-47	....
University of Nebraska	3-43	12-43	9-44	6-45	3-46	6-47	....
Albany Medical College, **(New York)**	3-43	12-43	9-44	6-45	3-46	3-47	....
Long Island College of Medicine	3-43	12-43	9-44	6-45	3-46	2-47	....
University of Buffalo	3-43	12-43	9-44	6-45	6-46	6-47	....
Columbia University	3-43	12-43	9-44	6-45	3-46	5-47	....
Cornell University	3-43	12-43	9-44	6-45	3-46	6-47	....
New York Medical College	3-43	12-43	9-44	6-45	3-46	6-47	....
New York University	3-43	12-43	9-44	6-45	3-46	6-47	....
University of Rochester	3-43	12-43	9-44	6-45	3-46	3-47	....
Syracuse University	3-43	12-43	9-44	6-45	6-46	6-47	....
Duke University, **(North Carolina)**	3-43	12-43	9-44	6-45	4-46	6-47	....
Bowman Gray School of Medicine	12-43	9-44	6-45	3-46	12-46	....	....
Ohio State University	3-43	12-43	9-44	6-45	3-46	3-47	....
University of Cincinnati	2-43	12-43	8-44	6-45	2-46	2-47	....
Western Reserve University	2-43	10-43	9-44	6-45	3-46	6-47	....
University of **Oklahoma**	5-43	12-43	9-44	6-45	3-46	6-47	....
University of **Oregon**	3-43	12-43	9-44	6-45	3-46	6-47	....
Hahnemann Medical College, **(Pennsylvania)**	3-43	12-43	9-44	6-45	3-46	4-47	....
Temple University	3-43	12-43	9-44	6-45	3-46	6-47	....
Jefferson Medical College	3-43	1-44	9-44	6-45	3-46	5-47	....
University of Pennsylvania	4-43	12-43	9-44	6-45	3-46	3-47	....
University of Pittsburgh	3-43	12-43	9-44	6-45	3-46	4-47	....
Woman's Medical College	3-43	3-44	1-45	1-46	6-47	....	....
Medical College of **South Carolina**	3-43	12-43	9-44	6-45	3-46	6-47	....
Meharry Medical College, **(Tennessee)**	6-43	3-44	12-44	9-45	6-46	6-47	....
University of Tennessee[1]	....	....	....	....	....	....	....
Vanderbilt University	3-43	12-43	9-44	6-45	3-46	6-47	....
Baylor University, **(Texas)**	5-43	3-44	11-44	7-45	3-46	5-47	....
Southwestern Medical College	3-44	12-44	9-45	6-46	6-47	....	....
University of Texas	12-42	7-43	6-44	6-45	3-46	2-47	....
University of **Utah**	9-44	6-45	3-46	12-46	....	....	....
University of **Vermont**	3-43	12-43	9-44	6-45	4-46	4-47	....
Medical College of **Virginia**	3-43	12-43	9-44	6-45	3-46	6-47	....
University of Virginia	3-43	12-43	9-44	6-45	3-46	6-47	....
Marquette University, **(Wisconsin)**	2-43	10-43	9-44	7-45	3-46	11-46	....
University of Wisconsin	3-43	11-43	9-44	6-45	5-46	5-47	....

1. Graduates students quarterly, March, June, September and December.

The dates for the next two graduations for the various schools are shown in tables 1, 2 and 3. During the academic year 1947-1948 seventeen schools, excluding the schools on the quarter system, will graduate classes earlier than May or June. Three schools (Louisville, Minnesota and Marquette) will graduate two classes during the period July 1, 1947 to June 30, 1948. Alabama will have no graduating class during this period. This school did not develop its four year program until July 1943. The first two classes admitted to the four year program were on the accelerated schedule and completed their work in three calendar years. The graduation of both these classes is reported in this number. Alabama has now discontinued acceleration and in the process of reconversion will not graduate its next class until June 1949.

The estimated number of graduates for each medical school in this country and the distribution of graduations by months for the period July 1, 1947 to June 30, 1948 are shown in table 5.

In 1948-1949, according to present schedules, all but three schools (Bowman Gray, Ohio State and Utah) will hold their graduations in May or June.

Continuation of the Accelerated Program

During the academic year 1946-1947 eighteen schools continued to have an accelerated program either in part or in whole. In certain schools all classes were on the accelerated program, in others only one or two. Acceleration was required of all students in the classes concerned in some schools; in other schools the students could elect to follow an accelerated schedule if they so desired. The data with respect to accelerated programs in 1946-1947 and 1947-1948 are summarized in table 6.

Four schools (Louisville, Minnesota, Tennessee and Utah) are planning to continue an accelerated program

TABLE 5.—*Estimated Number of Graduates of Medical Schools in the United States, July 1, 1947 to June 30, 1948*

	1947						1948						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Totals
Medical College of **Alabama**	..	..	..	..	..	..	..	..	..	..	..	..	..
University of **Arkansas**	..	..	..	..	..	..	..	..	..	..	..	56	56
College of Medical Evangelists, **(California)**	..	..	..	..	..	..	..	..	..	..	..	85	85
Stanford University	..	..	..	..	..	..	..	..	..	..	..	62	62
University of California	..	..	..	..	..	..	..	..	..	..	..	69	69
University of Southern California	..	..	..	..	..	..	..	..	..	..	..	62	62
University of **Colorado**	..	..	..	..	..	..	..	..	..	..	..	55	55
Yale University, **(Connecticut)**	..	..	..	..	..	..	..	..	..	..	..	58	58
George Washington University, **(D. C.)**	..	..	..	..	..	..	..	..	..	..	81	..	81
Georgetown University	..	..	..	..	..	..	..	..	..	..	..	84	84
Howard University	..	..	..	..	..	..	..	..	..	..	..	65	65
Emory University, **(Georgia)**	..	..	..	..	..	..	..	..	..	..	..	51	51
University of Georgia	..	..	..	..	..	..	..	..	67	..	..	..	67
Loyola University, **(Illinois)**	2	..	..	..	..	1	..	..	67	..	..	..	70
Northwestern University	..	..	..	..	..	26	..	..	45	..	..	71	142
University of Chicago	..	..	..	..	..	13	..	..	35	..	..	4	52
University of Illinois	..	..	..	..	..	3	..	..	..	..	..	149	152
Indiana University	..	..	..	..	..	..	..	..	..	..	..	100	100
State University of **Iowa**	..	..	..	..	..	..	..	..	61	..	..	..	61
University of **Kansas**	..	..	..	..	..	..	..	..	..	..	..	60	60
University of Louisville, **(Kentucky)**	..	..	85	..	..	..	..	..	..	..	..	61	146
Louisiana State University	..	..	..	..	..	..	..	..	..	..	80	..	80
Tulane University	..	..	..	..	..	..	..	..	..	..	..	120	120
Johns Hopkins University, **(Maryland)**	..	..	..	..	..	..	..	..	..	..	..	80	80
University of Maryland	..	..	..	..	..	..	..	..	..	..	..	80	80
Boston University, **(Massachusetts)**	..	..	..	..	..	..	..	..	..	..	..	55	55
Harvard Medical School	..	..	..	..	..	..	..	..	..	..	..	142	142
Tufts College Medical School	..	..	..	..	..	..	..	..	..	..	..	100	100
University of **Michigan**	..	..	..	..	..	..	..	..	..	..	..	134	134
Wayne University	..	..	..	..	..	..	..	..	..	..	..	60	60
University of **Minnesota**	..	82	..	..	..	..	..	..	..	..	..	75	157
St. Louis University, **(Missouri)**	..	..	..	..	..	..	..	..	..	..	..	120	120
Washington University	..	..	..	..	..	..	..	..	..	..	..	96	96
Creighton University, **(Nebraska)**	..	..	..	..	..	..	..	..	..	..	..	64	64
University of Nebraska	..	..	..	..	..	..	..	..	67	..	..	..	67
Albany Medical College, **(New York)**	..	..	..	..	..	..	..	..	..	..	..	41	41
Long Island College of Medicine	..	..	..	..	..	..	..	..	..	..	..	94	94
University of Buffalo	..	..	..	..	..	..	..	..	..	..	..	72	72
Columbia University	..	..	..	..	..	..	..	..	..	..	..	106	106
Cornell University	..	..	..	..	..	..	..	..	78	..	..	..	78
New York Medical College	..	..	..	..	..	..	..	..	..	..	..	122	122
New York University	..	..	..	..	..	..	..	..	..	..	..	136	136
University of Rochester	..	..	..	..	..	..	..	..	68	..	..	..	68
Syracuse University	..	..	..	..	..	..	..	..	..	..	..	41	41
Duke University, **(North Carolina)**	..	..	..	..	..	..	..	..	..	..	64	..	64
Bowman Gray School of Medicine	..	..	..	..	..	49	..	..	..	..	..	..	49
Ohio State University	..	..	..	..	..	..	..	..	72	..	..	..	72
University of Cincinnati	..	..	..	..	..	..	..	77	..	..	..	..	77
Western Reserve University	..	..	..	..	..	..	..	..	..	..	..	88	88
University of **Oklahoma**	..	..	..	..	..	..	..	..	..	..	62	..	62
University of **Oregon**	..	..	..	..	..	..	..	..	..	..	..	68	68
Hahnemann Medical College **(Pennsylvania)**	..	..	..	..	..	..	..	..	114	..	..	..	114
Jefferson Medical College	..	..	..	..	..	..	..	..	..	..	..	152	152
Temple University	..	..	..	..	..	..	..	..	..	..	..	126	126
University of Pennsylvania	..	..	..	..	..	..	..	..	128	..	..	..	128
University of Pittsburgh	..	..	..	..	..	..	..	..	..	75	..	..	75
Woman's Medical College	..	..	..	..	..	..	..	..	..	..	..	34	34
Medical College of **South Carolina**	..	..	..	..	..	..	..	..	..	..	..	53	53
Meharry Medical College, **(Tennessee)**	..	..	..	..	..	..	..	..	..	..	..	60	60
University of Tennessee	..	..	24	..	..	27	..	..	28	..	..	21	100
Vanderbilt University	..	..	..	..	..	..	..	..	..	..	..	53	53
Southwestern Medical College **(Texas)**	..	..	..	..	..	..	..	..	..	..	..	51	51
University of Texas	..	..	..	..	..	..	..	80	..	..	..	..	80
Baylor University	..	..	..	..	..	..	..	..	..	..	..	69	69
University of **Utah**	..	32	..	..	..	..	..	..	..	..	..	..	32
University of **Vermont**	..	..	..	..	..	..	..	..	..	..	..	42	42
Medical College of **Virginia**	..	..	..	..	..	..	..	..	..	..	..	87	87
University of **Virginia**	..	..	..	..	..	..	..	..	..	..	..	60	60
Marquette University, **(Wisconsin)**	87	..	..	..	..	..	..	..	..	..	..	83	170
University of Wisconsin	..	..	..	..	..	..	..	..	..	..	..	39	39
Totals	89	114	109	0	0	119	0	157	830	75	287	3,936	5,716

for all four classes, at least for the next two years. Three schools (Duke, Bowman Gray and Chicago) will allow students to elect an accelerated program for any or all of the four years. One school (Northwestern) will offer a quarterly schedule in the junior and senior years so that students who elect to do so may complete their courses approximately six months in advance of the regularly scheduled graduation. Mississippi, a two year school, will be on an accelerated program that will enable a student to complete the two years' work in approximately eighteen months.

For the other schools the acceleration of one or more classes during 1946-1947 and 1947-1948 is a temporary measure in the process of deceleration. Acceleration will probably be discontinued in these schools no later than the end of the academic year 1947-1948.

At least eighteen schools will offer a senior year in 1947-1948 that will extend for forty-five weeks or longer. In certain schools the extension of the senior year is planned as a permanent feature. In other schools it is a temporary arrangement associated with deceleration. This trend toward a longer senior year is of considerable interest. Experience may demonstrate that it is a satisfactory method of providing in the curriculum for important subjects that cannot be allotted adequate time in the conventional thirty-two or thirty-six week senior year.

TABLE 6.—*Medical Schools Continuing Accelerated Programs*

School	Classes on Accelerated Schedule	
	1946-1947	1947-1948
Acceleration Required		
University of Louisville	All	All
University of Minnesota	All	All
University of Tennessee [1,2]	All	All
University of Utah	All	All
Marquette University	All	None
State University of Iowa	Senior, Junior	Senior
Louisiana State University	Senior, Junior	Senior
Hahnemann Medical College	Senior, Junior	Senior
Albany Medical College	Senior, Junior	Senior
Medical College of Alabama	Senior	None
University of Georgia	Senior	None
University of Mississippi [3]	Sophomore, Freshman	Sophomore, Freshman
Acceleration Elective		
University of Chicago [2]	All	All
Duke University [2]	All	All
Bowman Gray School of Medicine	All	All
Loyola University	Senior, Junior	Senior
Northwestern University [4]	Senior, Junior	Senior
Ohio State University	Sophomore	Junior

1. Admits freshmen quarterly.
2. Offers quarterly schedule for all four classes.
3. School of the basic medical sciences.
4. Offers quarterly schedule for juniors and seniors.

Approved Medical Schools

Medical schools in the United States approved by the Council on Medical Education and Hospitals of the American Medical Association are shown in table 7; those in Canada are listed in table 8. The approved schools of the basic medical sciences in the United States and Canada are shown in table 9.

One new school, the Medical College of Alabama, has been added to the list of approved medical schools in the United States. In 1943 the University of Alabama School of the Basic Medical Sciences inaugurated a four year program and changed its name to the Medical College of Alabama. The first junior class was enrolled in June 1945 and the first senior class graduated in October 1946. With its four year program now fully in operation, this school has been transferred from the list of approved schools of the basic medical sciences to the list of approved medical schools.

The Hahnemann Medical College in Philadelphia is on probation, as are also the basic science schools of North Dakota and South Dakota.

Tables 7, 8 and 9 give the quantitative premedical requirements effective next year for each school, the enrolment by classes for the academic year 1946-1947 and the total attendance, which does not include the students in the required intern year. The number of graduates from June 1, 1946 to June 30, 1947 is also given for each school.

For the Canadian schools (table 9) enrolments are also given for premedical students in the medical school, as well as for students in a fifth medical year and the required intern year.

For each school the name of the dean or executive officer is given. Since the publication of last year's Educational Number the executive officers have changed in thirteen of the eighty-seven medical and basic science schools in the United States and Canada. The following schools have appointed new executive officers: Arkansas, Yale, Georgetown, Emory, Illinois, Boston University, Oklahoma, Medical College of Virginia, Marquette, North Dakota, Western Ontario, Toronto and McGill.

Enrolments 1946-1947

Enrolments for the academic year 1946-1947 for the medical schools in the United States are shown in table 7, for the medical schools in Canada in table 8 and for the schools of the basic medical sciences in the United States and Canada in table 9. The enrolment figures in these tables are recapitulated in table 10.

Five of the four year schools (Alabama, Louisville, Minnesota, Utah and Marquette) and one of the two year schools (Mississippi) had two separate classes enrolled in one or more years of the medical school course during 1946-1947.

The total enrolment, excluding students taking a required intern year, in the seventy medical and seven basic science schools in the United States was 23,900. This enrolment is 684 greater than the enrolment for 1945-1946 and is only 766 less than the enrolment of 24,666 for the 1944 "second session," the largest enrolment since 1910.

If the 1,131 students enrolled in the additional classes during 1946-1947 were not included, the total enrolment would have been 22,769. This figure is larger than the enrolment in any of the years from 1910 to 1942 with the exception of 1934 and 1935 (table 21).

From these figures it is apparent that in the first approximately normal postwar year the enrolment in medical schools in the United States has been maintained at nearly a peak figure. It is thus clear that the record of medical education in reconverting to a peacetime status can be compared favorably to the reconversion efforts of other groups in our society.

The total enrolment in the Canadian schools, including one basic science school, was 2,982, which is 412 greater than in the preceding session. There were 399 premedical and 34 fifth (not intern) year students in the Canadian schools. These figures are included in the "total" column of table 8 but not in the "total" column of table 10.

Students in a required intern year numbered 582 in the United States and 170 in Canada.

TABLE 7.—*Approved Medical Schools in the United States*

	Name and Location of School	1948 Premedical Requirement by Years	Students by Classes 1946-1947						1946 Graduates Not Reported in 1946 Educ. No. and 1947 Graduates to June 30, 1947	Executive Officer	
			Fresh-man	Sopho-more	Junior	Senior	Required Intern Year	Totals #			
	ALABAMA										
1	Medical College of Alabama, Birmingham	3	a 52	45	39	21	..	157	21	Roy R. Kracke, M.D., Dean	1
			..	..	..	40	..	40	40		
	ARKANSAS										
2	University of Arkansas School of Medicine, Little Rock	2	82	63	56	47	..	248	108§	Benjamin B. Wells, M.D., Dean	2
	CALIFORNIA										
3	University of California Medical School, Berkeley-San Francisco	3	72	73	70	69	..	284	135§	Francis Scott Smyth, M.D., Dean	3
4	College of Medical Evangelists, Loma Linda-Los Angeles	3	79	72	86	87	90	324	90	Harold Shryock, M.D., Dean, Loma Linda; W. F. Norwood, Ph.D., Dean, Los Angeles	4
5	University of Southern California School of Medicine, Los Angeles	3	67	66	65	58	66	256	66	Burrell O. Raulston, M.D., Dean	5
6	Stanford University School of Medicine, Stanford University-San Francisco	3	61	62	60	57	60	240	121§	Loren R. Chandler, M.D., Dean	6
	COLORADO										
7	University of Colorado School of Medicine, Denver	3	70	59	57	55	..	241	55	Ward Darley, M.D., Dean	7
	CONNECTICUT										
8	Yale University School of Medicine, New Haven	3	49	51	62	64	..	226	63	C. N. Hugh Long, M.D., Dean	8
	DISTRICT OF COLUMBIA										
9	Georgetown University School of Medicine, Washington	Degree †	104	88	84	90	..	366	89	Paul A. McNally, S.J., Ph.D., Dean	9
10	George Washington University School of Medicine, Washington	3	82	72	81	79	..	314	79	Walter A. Bloedorn, M.D., Dean	10
11	Howard University College of Medicine, Washington	2	70	68	66	63	..	267	126§	Joseph L. Johnson, M.D., Dean	11
	GEORGIA										
12	Emory University School of Medicine, Atlanta	3	60	43	51	55	..	209	55	R. Hugh Wood, M.D., Dean	12
13	University of Georgia School of Medicine, Augusta	3	76	75	66	66	..	283	66	G. Lombard Kelly, M.D., Dean	13
	ILLINOIS										
14	Loyola University School of Medicine, Chicago	3	87	58	67	74	..	286	76	James J. Smith, M.D., Dean	14
15	Northwestern University Medical School, Chicago	3	127	120	128	142	149	517	156	J. Roscoe Miller, M.D., Dean	15
16	University of Chicago, The School of Medicine	90 sem. hrs.	61	58	53	58	..	230	62	A. C. Bachmeyer, M.D., Assoc. Dean, Biology Division; F. J. Mullin, Ph.D., Dean of Students	16
17	University of Illinois College of Medicine, Chicago	3	167	153	149	166	..	635	325§	John B. Youmans, M.D., Dean	17
	INDIANA										
18	Indiana University School of Medicine, Bloomington-Indianapolis	3	129	83	86	98	..	396	98	John D. VanNuys, M.D., Dean	18
	IOWA										
19	State University of Iowa College of Medicine, Iowa City	3	93	62	62	74	..	291	74	Ewen Murchison MacEwen, M.D., Dean	19
	KANSAS										
20	University of Kansas School of Medicine, Lawrence-Kansas City	3	74	80	60	73	..	287	73	Harry R. Wahl, M.D., Dean	20
	KENTUCKY										
21	University of Louisville School of Medicine, Louisville	2	b 89	70	84	89	..	332	87	John Walker Moore, M.D., Dean	21
			95	82	63	85	..	325	..		
	LOUISIANA										
22	Louisiana State University School of Medicine, New Orleans	90 sem. hrs.	95	63	81	74	..	313	75	Vernon W. Lippard, M.D., Dean	22
23	Tulane University of Louisiana School of Medicine, New Orleans	3	126	112	103	125	..	466	125	Maxwell E. Lapham, M.D., Dean	23
	MARYLAND										
24	Johns Hopkins University School of Medicine, Baltimore	Degree	76	67	79	77	..	299	79	Alan M. Chesney, M.D., Dean	24
25	University of Maryland School of Medicine and College of Phys. and Surg., Baltimore	3	90	67	80	97	..	334	97	H. Boyd Wylie, M.D., Acting Dean	25
	MASSACHUSETTS										
26	Boston University School of Medicine, Boston	3	68	60	58	58	..	244	57	James M. Faulkner, M.D., Dean	26
27	Harvard Medical School, Boston	2	113	104	142	131	..	490	131	C. Sidney Burwell, M.D., Dean	27
28	Tufts College Medical School, Boston	4 & Degree	111	84	102	103	..	400	103	Dwight O'Hara, M.D., Dean	28
	MICHIGAN										
29	University of Michigan Medical School, Ann Arbor	90 sem. hrs.	115	111	134	140	..	500	140	Albert C. Furstenberg, M.D., Dean	29
30	Wayne University College of Medicine, Detroit	3	65	39	62	64	..	230	62	Hardy A. Kemp, M.D., Dean	30
	MINNESOTA										
31	University of Minnesota Medical School, Minneapolis	3	c 83	77	92	104	113	356	109	Harold S. Diehl, M.D., Dean	31
			110	93	80	82	104	365	..		
	MISSOURI										
32	St. Louis University School of Medicine, St. Louis	3	111	93	120	130	..	454	130	Alphonse M. Schwitalla, S.J., Ph.D., Dean	32
33	Washington University School of Medicine, St. Louis	3	86	82	103	96	..	367	97	Robert A. Moore, M.D., Dean	33

	NEBRASKA										
34	Creighton University School of Medicine, Omaha	3	74	40	64	56	..	234	55	Charles M. Wilhelmj, M.D., Dean	34
35	University of Nebraska College of Medicine, Omaha	3	93	74	70	77	..	314	77	Harold C. Lueth, M.D., Dean	35
	NEW YORK										
36	Albany Medical College, Albany	3	51	44	43	45	..	183	43	R. S. Cunningham, M.D., Dean	36
37	Long Island College of Medicine, Brooklyn	3	110	95	95	98	..	398	95	Jean A. Curran, M.D., President and Dean	37
38	University of Buffalo School of Medicine, Buffalo	3	70	60	75	71	..	276	147§	Stockton Kimball, M.D., Dean	38
39	Columbia University College of Physicians and Surgeons, New York	3	111	111	106	114	..	442	113	Willard C. Rappleye, M.D., Dean	39
40	Cornell University Medical College, New York	3	86	72	81	83	..	322	83	Joseph C. Hinsey, Ph.D., Dean	40
41	New York Medical College, Flower and Fifth Avenue Hospitals, New York	3	120	105	122	111	..	458	112	J. A. W. Hetrick, M.D., President and Dean	41
42	New York University College of Medicine, New York	3	121	109	137	119	..	486	120	Currier McEwen, M.D., Dean	42
43	University of Rochester School of Medicine and Dentistry, Rochester	3‡	67	68	67	67	..	269	66	George H. Whipple, M.D., Dean	43
44	Syracuse University College of Medicine, Syracuse	3	54	50	41	37	..	182	84§	H. G. Weiskotten, M.D., Dean	44
	NORTH CAROLINA										
45	Duke University School of Medicine, Durham	90 sem. hrs.	72	62	68	67	..	269	67	Wilburt C. Davison, M.D., Dean	45
46	Bowman Gray School of Medicine of Wake Forest College, Winston-Salem	3	48	37	49	38	..	172	38	C. C. Carpenter, M.D., Dean	46
	OHIO										
47	University of Cincinnati College of Medicine, Cincinnati	3	87	84	77	81	..	329	82	Stanley Dorst, M.D., Dean	47
48	Western Reserve University School of Medicine, Cleveland	90 sem. hrs.	80	84	81	79	..	324	79	Joseph T. Wearn, M.D., Dean	48
49	Ohio State University College of Medicine, Columbus	3	83	91	72	77	..	323	77	Charles A. Doan, M.D., Dean	49
	OKLAHOMA										
50	University of Oklahoma School of Medicine, Oklahoma City	3	85	58	62	70	..	275	70	J. P. Gray, M.D., Dean	50
	OREGON										
51	University of Oregon Medical School, Portland	3	74	61	71	71	..	277	69	D. W. E. Baird, M.D., Dean	51
	PENNSYLVANIA										
52	*Hahnemann Medical College and Hospital of Philadelphia	3	103	108	115	133	..	459	132	Charles L. Brown, M.D., Dean	52
53	Jefferson Medical College of Philadelphia	3	160	142	153	151	..	606	151	William H. Perkins, M.D., Dean	53
54	Temple University School of Medicine, Philadelphia	3	127	100	128	116	..	471	114	William N. Parkinson, M.D., Dean	54
55	University of Pennsylvania School of Medicine, Philadelphia	3	123	108	127	136	..	494	132	Isaac Starr, M.D., Dean	55
56	Woman's Medical College of Pennsylvania, Philadelphia	3	48	34	34	35	..	151	35	Marion Fay, Ph.D., Dean	56
57	University of Pittsburgh School of Medicine, Pittsburgh	2	86	75	75	83	..	319	83	William S. McEllroy, M.D., Dean	57
	SOUTH CAROLINA										
58	Medical College of the State of South Carolina, Charleston	3	60	50	53	50	..	213	50	Kenneth M. Lynch, M.D., Dean	58
	TENNESSEE										
59	University of Tennessee College of Medicine, Memphis	2	164	109	104	135	..	512	173	O. W. Hyman, Ph.D., Dean	59
60	Meharry Medical College, Nashville	2	67	44	60	58	..	229	117§	Michael J. Bent, M.D., Dean	60
61	Vanderbilt University School of Medicine, Nashville	Degree	53	44	53	43	..	193	43	Ernest W. Goodpasture, M.D., Dean	61
	TEXAS										
62	Southwestern Medical College of the Southwestern Medical Foundation, Dallas	3	61	51	50	52	..	214	86§	William L. Hart, M.D., Dean	62
63	University of Texas School of Medicine, Galveston	3	105	69	81	89	..	344	90	Chauncey D. Leake, Ph.D., Vice President; D. Bailey Calvin, Ph.D., Dean of Students	63
64	Baylor University College of Medicine, Houston	3	85	67	67	71	..	290	71	W. H. Moursund, M.D., Dean	64
	UTAH										
65	University of Utah School of Medicine, Salt Lake City	3	d { 46 / ..	40 / ..	32 / ..	36 / 32	.. / ..	154 / 32	35 / ..	Richard H. Young, M.D., Dean	65
	VERMONT										
66	University of Vermont College of Medicine, Burlington	3	40	40	41	34	..	155	33	William Eustis Brown, M.D., Dean	66
	VIRGINIA										
67	University of Virginia Department of Medicine, Charlottesville	3	71	62	61	69	..	263	67	Harvey E. Jordan, Ph.D., Dean	67
68	Medical College of Virginia, Richmond	3	84	61	87	84	..	316	83	Harvey B. Haag, M.D., Dean	68
	WISCONSIN										
69	University of Wisconsin Medical School, Madison	3	82	60	64	61	..	267	60	William S. Middleton, M.D., Dean	69
70	Marquette University School of Medicine, Milwaukee	3	e { 96 / 73	78 / 93	83 / 87	87 / 87	.. / ..	344 / 340	87 / ..	A. F. Berens, S.J., Regent	70
	Totals 1946-1947		6,037	5,127	5,537	5,668	478	22,369	6,349		
	Totals—Additional Classes		278	268	230	326	104	1,102	40		
	Grand totals		6,315	5,395	5,767	5,994	582	23,471	6,389		

Beginning Dates for Additional Classes

	Freshman	Sophomore	Junior	Senior
a	....	....	....	10-46
b	1-47	1-47	1-47	1-47
c	1-47	1-47	1-47	1-47
d	....	....	....	1-47
e	3-46	3-46	3-46	3-46

* On probation.
† 90 semester hours for veterans.
‡ Two years for veterans.

§ Figures are for two graduating classes and include senior students reported in 1946 Educational Number.
# Intern enrolment not included in total column.

Only five medical schools in the United States had 500 or more students enrolled, excluding those in the intern year. Illinois with 635 students had the largest enrolment. Jefferson had 606, Northwestern 517, Tennessee 512 and Michigan 500.

Eight schools in this country had enrolments under 200: Woman's Medical had 151 students, Vermont 155, Bowman Gray 172, Syracuse 182, Albany 183, Utah the largest enrolments. Dartmouth with 34 students had the smallest enrolment.

In table 11, enrolments in the various classes in the medical and basic science schools in the United States are given for each academic session since 1930-1931. Compared with the figures for 1945-1946 there were 504 more freshmen, 175 fewer sophomores, 16 more juniors and 339 more seniors enrolled in 1946-1947.

TABLE 8.—*Approved Medical Schools in Canada*

	Name and Location of School	1948 Premedical Requirement by Years	Students by Classes, 1946-1947									1946 Graduates Not Reported in 1946 Educ. No. and 1947 Graduates to June 30, 1947	Executive Officer	
			First Premedical Year	Second Premedical Year	Freshman	Sophomore	Junior	Senior	Additional Year	Required Intern Year	Totals†			
	ALBERTA													
1	University of Alberta Faculty of Medicine, Edmonton	2	..	..	42	37	44	32	..	..	155	21	John J. Ower, M.D., Dean	1
	MANITOBA													
2	University of Manitoba Faculty of Medicine, Winnipeg	2	..	..	70	62	60	64	..	63	256	63	A. T. Mathers, M.D., Dean	2
	NOVA SCOTIA													
3	Dalhousie University Faculty of Medicine, Halifax	2	..	..	59	50	44	36	..	28	189	28	H. G. Grant, M.D., Dean	3
	ONTARIO													
4	Queen's University Faculty of Medicine, Kingston	1	..	61	56	52	48	41	..	..	258	41	G. Spencer Melvin, M.D., Dean	4
5	University of Western Ontario Faculty of Medicine, London	2	..	..	100	..	57	41	34	..	232	34	J. B. Collip, M.D., Dean	5
6	University of Toronto Faculty of Medicine, Toronto	1	195	143	162	154	127	130	..	..	911	124	J. A. MacFarlane, M.B., Dean	6
	QUEBEC													
7	McGill University Faculty of Medicine, Montreal	3	..	..	116	131	116	99	..	..	462	92	Frederick Smith, M.D., Dean	7
8	University of Montreal Faculty of Medicine, Montreal	Degree	..	..	117	85	88	90	..	79	389	79	Edmond Dubé, M.D., Dean	8
9	Laval University Faculty of Medicine, Quebec	Degree	..	..	180	135	109	89	..	..	513	85	Charles Vézina, M.D., Dean	9
	Totals	..	195	204	902	706	693	631	34	170	3,365	567		

† Intern enrolment not included in total column.

TABLE 9.—*Approved Schools of the Basic Medical Sciences in the United States and Canada*

	Name and Location of School	1948 Premedical Requirement by Years	Students by Classes, 1946-1947			Executive Officer	
			Freshman	Sophomore	Total		
	MISSISSIPPI						
1	University of Mississippi School of Medicine, University	3	a { 26 / 29	31 / ..	57 / 29	David S. Pankratz, M.D. Dean	1
	MISSOURI						
2	University of Missouri School of Medicine, Columbia	3	39	34	73	Dudley S. Conley, M.D., Dean	2
	NEW HAMPSHIRE						
3	Dartmouth Medical School, Hanover	3 & degree	24	10	34	Rolf C. Syvertsen, M.D., Dean	3
	NORTH CAROLINA						
4	University of North Carolina School of Medicine, Chapel Hill	3	48	31	79	W. Reece Berryhill, M.D., Dean	4
	NORTH DAKOTA						
5	*University of North Dakota School of Medicine, Grand Forks	3	23	26	49	Alfred H. Lawton, M.D., Dean	5
	SOUTH DAKOTA						
6	*University of South Dakota School of Medical Sciences, Vermillion	3	29	22	51	Donald Slaughter, M.D., Dean	6
	WEST VIRGINIA						
7	West Virginia University School of Medicine, Morgantown	3	31	26	57	Edward J. Van Liere, M.D., Dean	7
	CANADA						
8	University of Saskatchewan School of Medical Sciences, Saskatoon	2	24	26	50	W. S. Lindsay, M.B., Dean	8
	Totals 1946-1947		244	206	450		
	Totals Additional Class		29	..	29		
	Grand totals		273	206	479		

* On probation.
a Beginning date of additional freshman class January 1947.

186, Vanderbilt 193 and Alabama 197. The figures for Utah and Alabama include the two senior classes that were in session during 1946-1947.

In Canada the largest enrolment occurred at Toronto with 573. This number does not include 338 students in the premedical years The smallest enrolment in Canada was at Alberta, with 155 students.

In the schools of the basic medical sciences in this country the total enrolment was 429. Mississippi with 86 students and North Carolina with 79 students had

It is of considerable interest to compare the size of the freshman classes for 1946-1947 in the various medical schools with the freshman enrolments reported by each school for 1941-1942, the last prewar year. In four schools the figures were exactly the same. In thirty-five schools the 1946-1947 freshman enrolment was greater and in thirty-seven schools it was less. Comparative figures are not available for one school, Southwestern Medical College, which was not founded until 1943.

Of the thirty-five schools with increased freshman enrolments, the increase was less than 10 per cent in twenty-one and 10 per cent or greater in fourteen. Of the thirty-seven schools with decreased enrolments, the decrease was less than 10 per cent in twenty-five and 10 per cent or more in twelve.

It should be noted that prior to 1942-1943 the totals shown in table 11 are somewhat higher than the sum of the figures for the various classes. This discrepancy resulted from the inability of certain schools to classify strictly their students into the conventional graded classes.

TABLE 10.—*Total Enrolments by Classes in the Medical and Basic Science Schools in the United States and Canada, 1946-1947*

Students in the required intern year are not included

	Freshmen	Sophomores	Juniors	Seniors	Total	Total Preceding Session
70 Medical Schools (U. S.)	6,037	5,127	5,537	5,668	22,369	22,691
5 Medical Schools (U. S.) additional classes	278	268	230	326	1,102	.....
7 Basic Science Schools (U. S.)	220	180	.....	.....	400	525
1 Basic Science School (U. S.) additional class	29	.....	.....	.....	29	.....
Totals (U. S.)	6,564	5,575	5,767	5,994	23,900	23,216
9 Medical Schools (Canada)	902	706	693	631	2,932*	2,523†
1 Basic Science School (Canada)	24	26	.....	.....	50	47
Totals (Canada)	926	732	693	631	2,982*	2,570†
Grand totals (U. S. and Canada)	7,490	6,307	6,460	6,625	26,882	25,786

* Does not include 339 premedical and 34 fifth year students.
† Does not include 363 premedical and 40 fifth year students.

TABLE 11.—*Students in the Medical and Basic Science Schools in the United States, 1931-1947*

Students in the required intern year are not included

	Freshman	Sophomore	Junior	Senior	Total
1930-1931	6,456	5,538	5,080	4,908	21,982
1931-1932	6,260	5,462	4,932	4,885	22,135
1932-1933	6,426	5,479	5,017	4,948	22,466
1933-1934	6,457	5,571	4,988	4,937	22,799
1934-1935	5,356	5,624	5,142	4,905	22,888
1935-1936	6,605	5,458	5,230	5,020	22,564
1936-1937	5,910	5,260	5,140	5,158	22,095
1937-1938	5,791	5,225	4,986	5,036	21,587
1938-1939	5,764	5,160	4,947	4,921	21,302
1939-1940	5,794	5,177	4,921	4,894	21,271
1940-1941	5,837	5,254	4,960	4,849	21,379
1941-1942	6,218	5,406	5,087	4,942	22,031
1942-1943	6,425	5,828	5,278	5,100	22,631
1943-1944	6,561	6,071	5,640	5,257	23,529
1944 (second session)	6,648	6,140	6,084	5,794	24,666
1944-1945	6,523	5,979	5,700	5,826	24,028
1945-1946	6,000	5,750	5,751	5,656	23,216
1946-1947*	6,564	5,575	5,767	5,994	23,900

* Includes additional classes.

In table 12 is shown the total number of students in the United States taking a required intern year and the total number of students taking such work for each of the academic years since 1930-1931.

Veterans in Medical Schools

Of the 23,900 students enrolled during 1946-1947 in the medical schools and schools of the basic medical sciences in the United States, 13,308, or 55.6 per cent, were veterans. Forty-six of the veterans were women. In table 13 is shown the composition of the student bodies for each of the medical schools and schools of the basic medical sciences in the United States for 1946-1947. These figures are recapitulated by classes in table 15.

The highest percentage of veterans was in the freshman class, of which veterans comprised 62.8 per cent of the students enrolled. The percentage of veterans for the other classes were sophomores 53.7 per cent, juniors 48.9 per cent, seniors 55.9 per cent.

With respect to the scholastic performance of veterans in the 1946-1947 freshman class, twenty-three schools reported that the veterans did better work than the nonveterans, fifty-one schools reported no significant difference between the work of the veterans and nonveterans, one school reported that the nonveterans did better work, and two schools were unable to express an opinion.

Almost the same distribution of opinion obtained with respect to the comparison of the freshmen veterans with the freshmen of prewar years. Twenty-six schools reported that the veterans were better students, forty-six could find no difference, three schools said that the prewar freshmen were better students and two schools were unable to comment on the question.

While the opinions expressed by several schools were based on impressions rather than on statistical data, it would seem clear that the veterans are proving to be capable students.

TABLE 12.—*Students in the Required Intern Year in the United States, 1931-1947*

1930-1931	1,025
1931-1932	1,067
1932-1933	1,106
1933-1934	1,183
1934-1935	1,233
1935-1936	1,213
1936-1937	1,255
1937-1938	1,132
1938-1939	1,152
1939-1940	1,152
1940-1941	1,058
1941-1942	767
1942-1943	639
1943-1944	451
1944 (second session)	447
1944-1945	452
1945-1946	488
1946-1947*	582

* Includes additional class.

Distribution of Students by Sex

In table 14 the students enrolled in all the medical and basic science schools in the United States and Canada during the academic year 1946-1947 are classified according to sex. The same table also classifies according to sex the graduates of the four year schools during the period June 1, 1946 to June 30, 1947.

The number of men enrolled totaled 24,874 and the number of women 2,441. Four schools had no women students: Georgetown, St. Louis, Dartmouth and Jefferson. One school, the Woman's Medical College, had no men students.

Table 16 gives the numbers and percentages of women medical students and graduates in the United States since 1905. In 1946-1947 there were 2,183 women students, or 9.1 per cent of the total students enrolled. This is the highest absolute as well as relative number of women medical students in the United States on record. The highest percentage of women was in the freshman class, in which women students numbered 11.1 per cent. In 1944-1945 there were only seven schools in addition to the Woman's Medical College that had more than 30 women enrolled. In 1945-1946 there were seventeen and in 1946-1947 there were twenty-four. In Canada, Toronto had 112 women students.

TABLE 13.—*Enrolment of Veterans and Nonveterans in the Medical and Basic Science Schools in the United States, 1946-1947*

	Men Veterans	Other Men	Total Men	Women Veterans	Other Women	Total Women	Total Men and Women
Medical College of **Alabama**	90	49	139	1	17	18	157
University of **Arkansas**	126	107	233	0	15	15	248
University of **California**	187	58	245	1	38	39	284
College of Medical Evangelists	76	219	295	0	29	29	324
University of Southern California	170	72	242	0	14	14	256
Stanford University	155	57	212	0	28	28	240
University of **Colorado**	132	87	219	1	21	22	241
Yale University, **(Connecticut)**	162	37	199	0	27	27	226
Georgetown University, **(Dist. of Columbia)**	158	208	366	0	0	0	366
George Washington University	172	114	286	2	26	28	314
Howard University	93	137	230	1	36	37	267
Emory University, **(Georgia)**	77	118	195	0	14	14	209
University of Georgia	156	112	268	0	15	15	283
Loyola University, **(Illinois)**	109	153	262	0	24	24	286
Northwestern University	345	146	491	0	26	26	517
University of Chicago	122	83	205	0	25	25	230
University of Illinois	292	274	566	2	67	69	635
Indiana University	227	141	368	1	27	28	396
State University of **Iowa**	196	71	267	0	24	24	291
University of **Kansas**	158	98	256	1	30	31	287
University of Louisville, **(Kentucky)**	141	178	319	0	13	13	332
Louisiana State University	148	124	272	1	40	41	313
Tulane University of Louisiana	243	188	431	0	35	35	466
Johns Hopkins University, **(Maryland)**	110	153	263	0	36	36	299
University of Maryland	182	123	305	2	27	29	334
Boston University, **(Massachusetts)**	152	71	223	1	20	21	244
Harvard Medical School	348	124	472	0	18	18	490
Tufts College Medical School	240	121	361	1	38	39	400
University of **Michigan**	263	172	435	1	64	65	500
Wayne University	134	86	220	0	10	10	230
University of **Minnesota**	105	210	315	1	40	41	356
University of **Mississippi**	42	12	54	0	3	3	57
University of **Missouri**	45	22	67	0	6	6	73
St. Louis University	304	150	454	0	0	0	454
Washington University	163	167	330	0	37	37	367
Creighton University, **(Nebraska)**	113	106	219	1	14	15	234
University of Nebraska	188	112	300	0	14	14	314
Dartmouth Medical School, **(New Hampshire)**	30	4	34	0	0	0	34
Albany Medical College, **(New York)**	113	43	156	0	27	27	183
Long Island College of Medicine	280	78	358	1	39	40	398
University of Buffalo	170	87	257	0	19	19	276
Columbia University	277	112	389	0	53	53	442
Cornell University	206	77	283	2	37	39	322
New York Medical College	194	202	396	0	62	62	458
New York University	256	168	424	0	62	62	486
University of Rochester	208	31	239	1	29	30	269
Syracuse University	107	47	154	2	26	28	182
University of **North Carolina**	48	21	69	2	8	10	79
Duke University	195	60	255	0	14	14	269
Bowman Gray School of Medicine	106	54	160	1	11	12	172
University of **North Dakota**	29	18	47	0	2	2	49
University of Cincinnati, **(Ohio)**	148	146	294	0	35	35	329
Western Reserve University	230	68	298	2	24	26	324
Ohio State University	143	154	297	0	26	26	323
University of **Oklahoma**	211	39	250	1	24	25	275
University of **Oregon**	188	65	253	0	24	24	277
Hahnemann Medical College, **(Pennsylvania)**	278	138	416	0	43	43	459
Jefferson Medical College	333	273	606	0	0	0	606
Temple University	252	167	419	1	51	52	471
University of Pennsylvania	205	253	458	0	36	36	494
Woman's Medical College	0	0	0	2	149	151	151
University of Pittsburgh	187	104	291	0	28	28	319
Medical College of **South Carolina**	132	68	200	0	13	13	213
University of **South Dakota**	42	5	47	0	4	4	51
University of **Tennessee**	202	290	492	2	18	20	512
Meharry Medical College	96	106	202	0	27	27	229
Vanderbilt University	71	110	181	0	12	12	193
Southwestern Medical College, **(Texas)**	144	49	193	1	20	21	214
Baylor University	168	102	270	1	19	20	290
University of Texas	235	96	311	0	33	33	344
University of **Utah**	107	36	143	2	9	11	154
University of **Vermont**	80	55	135	1	19	20	155
University of **Virginia**	193	56	249	0	14	14	263
Medical College of Virginia	220	65	285	0	31	31	316
West Virginia University	26	19	45	0	12	12	57
University of **Wisconsin**	168	55	223	2	42	44	267
Marquette University	197	116	313	0	31	31	344
Totals	12,599	8,077	20,676	42	2,051	2,093	22,769
Additional Classes							
Medical College of Alabama	13	24	37	0	3	3	40
University of Louisville	188	118	306	1	18	19	325
University of Minnesota	167	160	327	3	35	38	365
University of Mississippi	26	1	27	0	2	2	29
University of Utah	20	12	32	0	0	0	32
Marquette University	229	83	312	0	28	28	340
Totals	643	398	1,041	4	86	90	1,131
Grand totals	13,242	8,475	21,717	46	2,137	2,183	23,900

TABLE 14.—*Distribution of Students and Graduates by Sex in the United States and Canada, 1946-1947*

	Students		Graduates	
	Men	Women	Men	Women
Medical College of **Alabama**	139	18	20	1
University of **Arkansas**	233	15	104	4
University of **California**	245	39	124	11
College of Medical Evangelists	295	29	85	5
University of Southern California	242	14	64	2
Stanford University	212	28	115	6
University of **Colorado**	219	22	52	3
Yale University, **(Connecticut)**	199	27	58	5
Georgetown University, **(Dist. of Columbia)**	366	0	89	0
George Washington University	286	28	74	5
Howard University	230	37	117	9
Emory University, **(Georgia)**	195	14	55	0
University of Georgia	268	15	62	4
Loyola University, **(Illinois)**	262	24	70	6
Northwestern University	491	26	153	3
Univ. of Chicago	205	25	57	5
University of Illinois	506	69	311	14
Indiana University	368	28	94	4
State University of **Iowa**	267	24	71	3
University of **Kansas**	256	31	66	7
University of Louisville, **(Kentucky)**	319	13	87	0
Louisiana State University	272	41	68	7
Tulane University of Louisiana	431	35	121	4
Johns Hopkins University, **(Maryland)**	263	36	74	5
University of Maryland	305	29	93	4
Boston University, **(Massachusetts)**	223	21	54	3
Harvard Medical School	472	18	131	0
Tufts College Medical School	361	39	98	5
University of **Michigan**	435	65	133	7
Wayne University	220	10	58	4
University of **Minnesota**	315	41	104	5
University of **Mississippi**	54	3	..	..
University of **Missouri**	67	6	..	..
St. Louis University	454	0	130	0
Washington University	330	37	91	6
Creighton University, **(Nebraska)**	219	15	55	2
University of Nebraska	300	14	74	3
Dartmouth Med. School, **(New Hampshire)**	34	0	..	..
Albany Medical College, **(New York)**	156	27	40	3
Long Island College of Medicine	358	40	91	4
University of Buffalo	257	19	144	3
Columbia University	389	53	108	5
Cornell University	283	39	77	6
New York Medical College	396	62	100	12
New York University	424	62	114	6
University of Rochester	239	30	63	3
Syracuse University	154	28	78	6
University of **North Carolina**	69	10	..	..
Duke University	255	14	66	1
Bowman Gray School of Medicine	160	12	35	3
University of **North Dakota**	47	2	..	..
University of Cincinnati, **(Ohio)**	294	35	72	10
Western Reserve University	298	26	76	3
Ohio State University	297	26	72	5
University of **Oklahoma**	250	25	68	2
University of **Oregon**	253	24	65	4
Hahnemann Med. College, **(Pennsylvania)**	416	43	123	9
Jefferson Medical College	606	0	151	0
Temple University	419	52	105	9
University of Pennsylvania	458	36	129	3
Woman's Medical College	0	151	0	35
University of Pittsburgh	291	28	73	10
Medical College of **South Carolina**	200	13	48	2
University of **South Dakota**	47	4	..	..
University of **Tennessee**	402	20	109	4
Meharry Medical College	202	27	114	3
Vanderbilt University	181	12	43	0
Southwestern Medical College, **(Texas)**	193	21	80	6
University of Texas	311	33	81	9
Baylor University	270	20	67	4
University of **Utah**	143	11	33	2
University of **Vermont**	135	20	31	2
University of **Virginia**	249	14	66	1
Medical College of Virginia	285	31	79	4
West Virginia University	45	12	..	..
University of **Wisconsin**	223	44	55	5
Marquette University	313	31	84	3
University of Alberta, **(Canada)**	140	15	18	3
University of Manitoba	233	23	60	3
Dalhousie University	184	5	27	1
Queen's University	244	14	39	2
University of Western Ontario	219	13	31	3
University of Toronto	799	112	111	13
McGill University	427	35	83	9
University of Montreal	368	21	73	6
Laval University	501	12	84	1
University of Saskatchewan	42	8	..	..
Totals	23,833	2,351	6,536	380
Additional Classes				
Medical College of Alabama	37	3	37	3
University of Louisville	306	19	..	..
University of Minnesota	327	38	..	..
University of Mississippi	27	2	..	..
University of Utah	32	0	..	..
Marquette University	312	28	..	..
Totals—Additional classes	1,041	90	37	3
Grand totals	24,874	2,441	6,573	383

It is clear from the figures in table 16 that the opportunity for women to study medicine in the United States has almost doubled in the past three years. A change in the direction of this trend, however, will probably be observed next year, since it is estimated that about 9 per cent of the entering classes in 1947 will be women, as compared with 11 per cent in the 1946 class.

Geographic Source of Freshman Students 1946-1947

In table 17 is indicated the residence of students in the first 1946-1947 freshman class of each medical and basic science school in the United States and Canada. In table 18 the same information is given for the students enrolled in the second freshman class for those schools that admitted two freshman classes during 1946-1947. It is admitted that the residence of certain students may be of brief duration, so that their real geographic source may not be revealed by their residence on entering medical school. On the other hand, the birth place of students is probably no better a criterion of geographic origin, since appreciable numbers of people have permanent residence elsewhere than in the states of their birth.

Included in table 17 are 964 students in Canada. This figure is somewhat higher than the freshman

TABLE 15.—*Enrolment by Classes of Veterans and Nonveterans in the Medical and Basic Science Schools in the United States, 1946-1947*

	Men Veterans	Other Men	Total Men	Women Veterans	Other Women	Total Women	Total Men and Women
Freshmen	3,860	1,689	5,549	38	670	708	6,257
Sophomores	2,834	1,783	4,617	4	686	690	5,307
Juniors	2,706	2,445	5,151	0	386	386	5,537
Seniors	3,199	2,160	5,359	0	309	309	5,668
Totals 1946-1947	12,599	8,077	20,076	42	2,051	2,093	22,769
Additional Classes							
Freshmen	219	64	283	3	21	24	307
Sophomores	150	90	240	1	27	28	268
Juniors	115	93	208	0	22	22	230
Seniors	159	151	310	0	16	16	326
Totals—Additional classes	643	398	1,041	4	86	90	1,131
Grand totals	13,242	8,475	21,717	46	2,137	2,183	23,900

TABLE 16.—*Women in Medicine in the United States*

Year	Women Students	Percentage of All Students	Women Graduates	Percentage of All Graduates
1905	1,073	4.1	219	4.0
1910	907	4.0	116	2.6
1915	592	4.0	92	2.6
1920	818	5.8	122	4.0
1925	910	5.0	204	5.1
1926	935	5.0	212	5.4
1927	964	4.9	189	4.7
1928	929	4.5	207	4.9
1929	925	4.4	214	4.8
1930	955	4.4	204	4.5
1931	990	4.5	217	4.6
1932	955	4.3	208	4.2
1933	1,056	4.7	214	4.4
1934	1,020	4.5	211	4.2
1935	1,077	4.7	207	4.1
1936	1,133	5.0	246	4.7
1937	1,113	5.1	238	4.4
1938	1,161	5.4	237	4.6
1939	1,144	5.4	260	5.1
1940	1,145	5.4	253	5.0
1941	1,146	5.4	280	5.3
1942	1,164	5.3	279	5.4
1943	1,150	5.1	241	4.6
1944	1,176	5.0	239	4.7
1944 (Second session)	1,141	4.6	252	4.9
1945 (to June 30)	1,352	5.6	262	5.1
1946 (to May 31)	1,868	8.0	242	4.2
1947 (to June 30)*	2,183	9.1	342	5.4

* Includes additional classes.

TABLE 17.—*Residence of Freshman Medical Students*

Marginal Number		1 Alabama	2 Arizona	3 Arkansas	4 California	5 Colorado	6 Connecticut	7 Delaware	8 District of Columbia	9 Florida	10 Georgia	11 Idaho	12 Illinois	13 Indiana	14 Iowa	15 Kansas	Marginal Number
1	Medical College of Alabama	52	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
2	University of Arkansas School of Medicine	..	..	81	..	..	..	..	..	..	1	..	..	..	..	..	2
3	University of California Medical School	..	..	..	70	..	..	..	..	..	..	..	..	..	..	..	3
4	College of Medical Evangelists	..	..	1	26	..	..	..	..	3	..	2	..	..	1	..	4
5	University of Southern California School of Medicine	..	2	..	57	..	..	..	..	1	..	..	..	..	..	..	5
6	Stanford University School of Medicine	..	2	..	47	1	1	..	..	..	2	..	1	..	..	..	6
7	University of Colorado School of Medicine	..	..	..	..	61	..	..	..	..	..	..	..	..	..	..	7
8	Yale University School of Medicine	..	..	..	3	..	12	..	1	..	1	..	1	2	..	..	8
9	Georgetown University School of Medicine	..	1	..	3	1	6	..	8	1	..	..	..	..	..	..	9
10	George Washington University School of Medicine	..	..	..	4	..	..	..	21	..	..	1	1	..	1	1	10
11	Howard University College of Medicine	1	..	1	3	..	1	..	15	1	2	..	1	..	..	..	11
12	Emory University School of Medicine	1	..	..	1	..	..	..	..	17	30	..	..	1	..	..	12
13	University of Georgia School of Medicine	..	..	..	..	..	..	..	..	..	76	..	..	..	..	..	13
14	Loyola University School of Medicine	..	1	..	3	..	2	..	..	..	1	..	48	2	..	..	14
15	Northwestern University Medical School	..	..	..	6	..	..	..	..	1	..	3	48	6	2	4	15
16	University of Chicago, The School of Medicine	..	1	..	3	..	1	..	..	1	..	1	28	1	2	1	16
17	University of Illinois College of Medicine	1	..	..	4	..	..	..	..	..	..	..	156	..	1	..	17
18	Indiana University School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	125	..	..	18
19	State University of Iowa College of Medicine	..	..	..	1	..	..	..	..	..	..	..	..	..	90	..	19
20	University of Kansas School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	68	20
21	University of Louisville School of Medicine	..	..	..	..	..	1	..	..	2	1	..	2	9	1	..	21
22	Louisiana State University School of Medicine	2	..	..	2	..	..	..	..	..	1	..	..	..	..	..	22
23	Tulane University of Louisiana School of Medicine	10	..	..	..	..	1	..	..	10	..	..	4	1	1	1	23
24	Johns Hopkins University School of Medicine	..	..	..	8	..	1	..	1	1	..	..	1	2	1	..	24
25	University of Maryland School of Medicine	..	..	..	5	..	3	1	1	2	..	..	2	..	..	..	25
26	Boston University School of Medicine	..	..	..	2	1	2	..	1	..	..	..	..	..	..	..	26
27	Harvard Medical School	1	1	1	7	1	4	..	..	3	1	..	10	1	1	1	27
28	Tufts College Medical School	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	28
29	University of Michigan Medical School	..	..	..	..	..	..	..	..	..	2	..	1	1	..	..	29
30	Wayne University College of Medicine	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	30
31	University of Minnesota Medical School	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	31
32	University of Mississippi School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	32
33	University of Missouri School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	33
34	St. Louis University School of Medicine	..	..	..	8	2	..	..	..	3	..	..	13	3	2	2	34
35	Washington University School of Medicine	..	..	1	2	1	..	..	..	..	..	1	10	3	1	1	35
36	Creighton University School of Medicine	..	1	..	9	3	1	..	..	..	..	1	..	2	13	4	36
37	University of Nebraska College of Medicine	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	37
38	Dartmouth Medical School	..	..	..	2	..	3	..	..	1	..	..	..	..	..	1	38
39	Albany Medical College	..	..	..	1	..	2	..	..	..	..	..	1	1	..	..	39
40	Long Island College of Medicine	..	..	..	4	..	3	..	..	..	..	..	..	..	..	..	40
41	University of Buffalo School of Medicine	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	41
42	Columbia University College of Physicians and Surgeons	1	1	..	2	..	4	..	1	1	..	..	..	..	..	..	42
43	Cornell University Medical College	..	..	..	..	..	6	1	2	1	1	2	..	..	..	..	43
44	New York Medical College	..	1	..	1	..	13	..	..	..	..	..	..	1	..	..	44
45	New York University College of Medicine	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	45
46	University of Rochester School of Medicine and Dentistry	..	..	..	5	..	2	..	..	..	1	1	1	2	..	..	46
47	Syracuse University College of Medicine	..	..	..	2	..	1	..	..	..	1	..	..	..	..	..	47
48	University of North Carolina School of Medicine	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	48
49	Duke University School of Medicine	1	..	..	6	..	..	..	1	5	1	..	1	..	..	1	49
50	Bowman Gray School of Medicine	..	..	..	3	..	..	..	1	2	1	..	..	..	..	..	50
51	University of North Dakota School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	51
52	University of Cincinnati College of Medicine	..	..	..	1	..	..	..	..	..	..	..	..	3	..	..	52
53	Western Reserve University School of Medicine	..	..	..	..	..	2	..	..	..	..	..	2	..	..	..	53
54	Ohio State University College of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	54
55	University of Oklahoma School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	55
56	University of Oregon Medical School	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	56
57	Hahnemann Medical College	1	1	..	2	..	1	1	..	..	..	..	..	..	1	..	57
58	Jefferson Medical College of Philadelphia	1	..	..	2	..	..	..	1	1	..	1	..	..	..	..	58
59	Temple University School of Medicine	..	..	..	2	1	2	2	2	7	..	..	..	..	2	..	59
60	University of Pennsylvania School of Medicine	..	..	..	1	1	2	1	..	2	1	1	..	..	..	..	60
61	Woman's Medical College of Pennsylvania	1	..	..	6	1	2	..	..	..	..	..	2	2	..	..	61
62	University of Pittsburgh School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	62
63	Medical College of the State of South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	63
64	University of South Dakota School of Medical Sciences	..	..	..	1	..	..	..	..	..	..	..	..	..	5	..	64
65	University of Tennessee College of Medicine	4	..	4	1	..	..	..	..	3	1	..	2	..	..	..	65
66	Meharry Medical College	1	..	1	2	..	..	..	..	9	1	..	3	1	..	1	66
67	Vanderbilt University School of Medicine	3	..	1	3	..	1	..	..	3	..	..	1	..	..	..	67
68	Southwestern Medical College	..	..	..	2	..	2	..	..	..	..	..	..	1	..	..	68
69	University of Texas School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	69
70	Baylor University College of Medicine	..	1	..	..	1	..	..	..	1	..	..	..	..	..	1	70
71	University of Utah School of Medicine	..	2	..	1	..	..	..	..	..	..	3	..	..	1	..	71
72	University of Vermont College of Medicine	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	72
73	University of Virginia Department of Medicine	..	..	..	..	..	..	1	..	2	1	..	..	1	..	..	73
74	Medical College of Virginia	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	74
75	West Virginia University School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	75
76	University of Wisconsin Medical School	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	76
77	Marquette University School of Medicine	..	2	..	5	1	..	..	1	..	..	1	4	2	..	..	77
78	University of Alberta Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	78
79	University of Manitoba Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	79
80	Dalhousie University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	80
81	Queen's University Faculty of Medicine	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	81
82	University of Western Ontario Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	82
83	University of Toronto Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	83
84	McGill University Faculty of Medicine	..	..	..	2	..	..	..	..	1	..	..	1	..	..	..	84
85	University of Montreal Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	85
86	Laval University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	86
87	University of Saskatchewan School of Medical Sciences	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	87
	Total	82	17	91	336	78	92	7	57	88	128	20	349	174	129	68	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

* Figures are for students in beginning premedical year.
† Figures are for first freshman class for those schools admitting two classes.

in the United States and Canada, 1946-1947

Marginal Number	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U. S. Territories and Possessions	Canada	Foreign	Totals	Marginal Number
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	52	1
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	82	2
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	72	3
4	..	..	..	3	..	2	1	1	..	..	..	..	..	..	1	2	..	..	2	2	2	1	..	..	..	4	..	..	..	..	8	..	..	..	..	3	10	4	79	4
5	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	67	5
6	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	2	..	..	61	6
7	..	..	..	..	..	2	..	..	..	1	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	70	7
8	..	..	..	..	5	..	..	1	..	..	..	..	..	2	..	16	..	..	1	..	1	..	1	..	..	..	1	1	..	..	1	..	..	..	..	..	..	49	8
9	1	..	1	6	5	..	..	..	..	..	..	..	1	16	..	28	..	..	1	..	1	18	..	..	..	..	..	..	..	2	..	..	3	..	1	..	1	104	9
10	..	..	..	16	1	1	..	..	1	1	..	..	..	2	2	8	..	..	3	..	1	3	2	..	..	..	..	..	..	8	1	2	..	..	1	..	..	82	10
11	..	2	..	2	2	1	..	2	1	..	..	..	..	3	..	7	1	..	..	..	..	4	..	..	..	2	1	..	..	4	..	1	..	..	1	..	11	70	11
12	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	2	..	2	3	..	..	..	..	..	..	..	..	..	..	60	12
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	76	13
14	..	1	..	..	1	1	..	..	1	1	..	..	..	..	..	6	..	..	6	..	..	5	..	..	..	..	1	..	..	..	..	..	1	..	5	..	1	87	14
15	1	..	..	..	..	3	1	..	1	2	1	..	..	1	4	..	..	1	3	5	1	..	..	..	1	..	7	1	..	..	8	..	11	..	3	1	1	127	15
16	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	2	..	..	3	..	..	3	1	..	1	..	..	1	..	..	2	..	2	..	2	..	2	61	16
17	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	167	17
18	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	129	18
19	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	93	19
20	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	74	20
21	44	..	..	..	..	1	..	1	..	..	..	..	..	2	..	5	1	..	7	..	..	4	..	..	..	1	..	..	..	1	..	1	1	3	..	1	..	1	89	21
22	..	81	..	..	..	..	..	5	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	95	22
23	4	24	..	1	..	..	..	12	4	..	..	..	..	2	1	10	..	..	1	3	..	4	..	2	..	1	13	..	..	2	..	2	..	1	5	..	6	123	23
24	..	..	1	7	3	1	2	2	1	..	1	1	..	5	..	10	2	..	..	1	..	9	..	..	..	..	3	..	..	3	3	3	..	..	1	..	2	76	24
25	..	..	..	55	..	..	..	..	..	..	..	1	..	3	..	3	1	..	1	..	..	4	..	..	..	..	..	..	..	1	..	5	..	..	2	..	..	90	25
26	..	..	3	..	38	1	..	..	..	..	..	..	2	1	..	12	..	..	..	1	..	..	3	..	..	..	..	..	..	..	..	..	..	1	..	..	68	26
27	..	..	1	1	17	2	1	..	2	..	..	..	1	2	..	17	2	..	7	1	2	8	..	..	..	..	2	..	1	2	4	1	3	..	1	1	5	113	27
28	..	..	4	..	78	..	..	..	..	..	..	..	3	..	..	1	..	..	..	..	..	..	15	..	..	..	..	1	..	..	..	..	..	..	..	..	1	111	28
29	1	..	..	..	2	90	1	..	1	..	..	..	..	1	1	4	1	..	5	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	1	..	..	115	29
30	..	..	..	..	..	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	65	30
31	..	..	..	..	1	..	70	..	..	..	1	..	..	..	..	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	1	..	83	31
32	..	..	..	..	..	..	..	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	32
33	..	..	..	..	..	..	1	..	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39	33
34	..	..	..	..	..	2	5	..	29	1	..	..	1	3	..	2	..	..	12	2	2	2	..	..	..	..	2	1	..	..	6	..	..	..	5	..	3	111	34
35	2	..	..	..	..	1	..	1	34	1	..	..	..	2	..	4	..	..	3	1	..	1	..	..	..	..	5	..	..	..	5	..	2	..	3	..	1	86	35
36	..	..	..	..	..	1	2	..	4	1	12	..	..	1	..	4	..	..	1	1	..	..	..	..	..	..	1	..	..	..	3	..	..	..	5	1	1	74	36
37	..	..	..	..	..	..	..	..	..	..	87	..	..	..	..	..	..	..	3	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	93	37
38	..	..	..	..	4	..	..	..	..	..	..	..	2	5	..	2	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	38
39	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	39	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	51	39
40	..	..	..	..	2	..	..	..	..	..	..	..	..	14	..	81	..	..	..	2	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	1	110	40
41	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	59	..	..	..	..	..	3	..	1	..	..	..	..	1	..	..	..	..	3	..	..	..	70	41
42	1	..	..	1	6	..	1	..	..	..	1	..	..	17	..	61	..	..	1	..	..	2	1	..	..	..	2	..	..	..	2	..	..	..	2	..	3	111	42
43	1	..	..	..	4	..	..	..	..	..	..	..	..	15	..	40	..	..	3	..	..	5	..	..	..	..	..	1	..	1	1	..	..	2	..	..	86	43
44	..	..	..	1	2	..	..	..	..	..	..	..	..	19	..	75	..	..	1	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	1	120	44
45	..	..	..	..	..	1	..	..	..	..	..	..	..	12	..	102	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	121	45
46	..	1	1	..	3	2	..	..	..	..	..	..	1	3	..	27	..	..	6	1	..	3	1	1	..	..	..	..	1	..	1	..	..	2	..	1	..	67	46
47	..	..	..	..	3	1	..	..	1	..	..	..	..	1	..	39	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	54	47
48	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	38	..	..	..	..	..	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	48	48
49	2	..	..	..	1	2	..	..	..	..	..	..	..	1	..	7	14	..	3	..	..	1	1	9	..	2	4	..	..	5	..	4	..	..	..	..	..	72	49
50	..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	2	29	..	2	1	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	48	50
51	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	23	51
52	7	..	..	..	..	3	..	..	..	..	1	..	..	1	..	1	..	..	63	..	..	3	..	..	..	..	..	..	..	..	3	..	..	1	..	..	..	87	52
53	1	..	..	..	1	1	..	..	..	..	..	..	..	2	..	7	..	1	61	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	80	53
54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	83	54
55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	85	55
56	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	1	..	..	1	..	42	..	..	..	..	..	..	1	..	1	18	..	..	..	3	1	..	74	56
57	..	..	..	1	1	..	..	..	..	..	..	..	..	12	..	27	..	..	4	..	..	47	..	1	..	..	..	..	..	..	..	..	..	..	2	..	1	103	57
58	..	..	..	2	3	..	2	..	..	..	..	..	..	21	..	4	..	..	6	..	1	99	6	..	..	..	..	2	..	..	1	4	..	..	3	..	..	160	58
59	..	..	..	1	2	1	2	..	..	1	..	..	1	11	..	5	..	..	4	..	..	67	1	..	..	1	1	..	..	1	1	3	1	5	..	..	127	59
60	1	..	2	..	2	..	..	..	..	..	..	..	..	8	..	6	4	..	1	..	..	73	..	..	..	1	6	2	..	1	2	1	1	..	2	..	1	123	60
61	..	..	..	1	..	..	..	..	..	..	..	..	..	3	..	6	2	..	..	..	..	15	..	..	..	..	2	..	..	..	1	..	1	..	..	..	2	48	61
62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	86	62
63	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	60	..	..	..	..	..	..	..	..	..	..	..	..	..	60	63
64	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19	..	1	..	..	1	..	..	..	..	1	..	..	29	64
65	3	4	..	..	..	1	..	12	1	..	1	..	..	1	2	1	..	..	2	2	..	..	..	2	..	103	5	..	..	1	2	1	..	1	3	1	..	164	65
66	1	3	..	1	..	..	..	6	2	..	..	..	..	1	..	4	3	..	5	1	..	1	..	2	..	10	5	..	..	2	..	1	..	..	..	..	..	67	66
67	2	..	..	..	..	..	1	5	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3	..	23	3	1	..	..	..	..	..	..	..	1	..	53	67
68	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	2	47	..	..	..	..	..	..	..	1	..	..	61	68
69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	105	..	..	..	..	..	..	..	..	..	..	105	69
70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	78	..	..	..	..	..	..	..	..	..	..	85	70
71	..	..	..	..	..	..	..	1	..	2	..	..	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	33	..	..	..	..	..	..	..	..	..	46	71
72	..	..	4	..	2	..	..	..	..	..	..	..	..	1	..	6	..	..	..	..	..	..	..	..	..	..	..	24	..	..	..	..	..	..	..	..	..	40	72
73	1	..	..	2	..	..	..	..	..	..	..	..	..	2	..	5	2	..	1	..	..	3	..	1	..	1	..	..	..	45	..	1	..	..	2	..	..	71	73
74	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	1	7	..	1	..	1	..	1	..	1	..	..	..	..	59	..	5	..	..	3	..	..	84	74
75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	..	..	..	..	..	..	31	75
76	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	76	..	..	1	..	82	76
77	..	..	..	..	1	6	5	..	..	1	..	..	..	1	..	8	..	..	8	..	1	1	..	..	1	..	..	..	..	2	..	40	..	4	..	1	96	77
78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	42	..	42	78
79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	70	..	70	79
80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	52	7	59	80
81	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	60	..	61*	81
82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	100	..	100	82
83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	195	..	195*	83
84	..	..	..	..	1	1	..	..	..	..	..	1	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	99	7	116	84
85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	113	4	117	85
86	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	177	1	180	86
87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	..	24	87
	74	118	17	104	196	195	97	77	128	15	106	5	15	208	15	768	111	26	318	115	56	489	40	92	23	154	300	45	28	139	77	68	143	10	89	951	73	7,221	
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	

enrolment figures given in preceding tables because table 17 employs the figure for the first class of premedical students at Queen's and Toronto, since these students are already registered in those schools.

In table 19 is shown the number of first year medical students from each state per hundred thousand inhabitants. This calculation employed only the enrolment statistics in table 17.

In previous years the statistics have shown that states with and states without medical schools have sent almost identical proportions of their populations to medical schools. This year the figures reveal a somewhat different situation. The twelve states without medical schools had an average of 3.5 students per hundred thousand of population in the 1946-1947 freshman classes of the various medical schools, while those states with medical schools had an average of 5.2 students per hundred thousand of population enrolled as freshmen. The explanation for this change is not immediately apparent. It does not appear to be the result of any general change in the policy of schools with respect to the admission of nonresident students.

1947 freshman class in each school in the United States and Canada.

Six schools did not admit any out of state students in 1946-1947. They were Alabama, Georgia, Mississippi, South Carolina, Texas and West Virginia. These schools have frequently enrolled only residents in the past, although in the preceding two years every medical school in the United States accepted some out of state students. Seven schools admitted only 1 or 2 out of state students. Twenty-three schools admitted more nonresident than resident students, and one school admitted an equal number of residents and nonresidents.

Of the 964 beginning students in Canada, only 13 came from the United States. Nineteen freshman students from Canada were enrolled in the schools in this country. It is apparent that the extensive exchanges of students between these neighbor countries which existed before the war have not yet been reestablished.

There were 88 freshman students from the territories and possessions of the United States, none of whom were enrolled in Canada. A total of 73 students from

TABLE 18.—*Residence of Freshman Medical Students*

Marginal Number		1 Alabama	2 Arizona	3 Arkansas	4 California	5 Colorado	6 Connecticut	7 Delaware	8 District of Columbia	9 Florida	10 Georgia	11 Idaho	12 Illinois	13 Indiana	14 Iowa	15 Kansas	Marginal Number
1	University of Louisville School of Medicine	..	..	..	1	..	..	..	..	2	..	1	1	4	..	1	1
2	University of Minnesota Medical School	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2
3	University of Mississippi School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
4	Marquette University School of Medicine	..	..	..	3	..	1	1	..	..	..	2	2	..	..	..	4
	Totals	0	0	0	4	0	1	1	0	2	0	3	3	4	1	1	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

A comparative study of resident and nonresident enrolments in 1941-1942, the last prewar year, and in 1946-1947 reveals no especial differences. In 1941-1942 the enrolment of the state and municipal institutions included 17.4 per cent out of state students. In the same year the enrolment of private medical schools included 52.9 per cent nonresident students.

Of the freshman students admitted by state and municipal schools in 1946-1947, 14.8 per cent were nonresidents. In the private schools 51.4 per cent of the freshmen were out of state students.

It is to be hoped that, if a trend is developing for medical schools to restrict admission to residents of their own states, it will be temporary and short lived. While it is easy to understand the pressures that might lead to the adoption of such a policy, it must be seriously questioned whether such a practice would be in the best interest of the schools themselves or of medical education in the country as a whole. If the admission of nonresident students should be narrowly restricted, it would undoubtedly encourage the development of medical schools in a number of states which are not in a position to establish and maintain acceptable medical schools.

In table 20 is recapitulated the number of resident students, students from other states, students from United States territories and possessions, Canadian students and foreign students enrolled in the first 1946-

foreign countries was enrolled in freshman classes, 54 in the schools of this country and 19 in Canada. The largest number, 11, was enrolled in the Howard University College of Medicine.

Graduates

The last columns of tables 7 and 8 give the number of graduates from each medical school in the United States and Canada respectively from June 1, 1946 to June 30, 1947. During this period there were 6,389 graduates in the United States and 567 in Canada. As already mentioned, ten schools in the United States graduated two classes during this period.

The total students and graduates in the United States per academic year since 1905 are reported in table 21. The 6,389 graduates reported for this year are the most reported for any single academic year since the Council on Medical Education and Hospitals was established. It should be noted, however, that this number includes the students graduated during a thirteen month period in which ten schools graduated two classes. Three schools had more than 150 graduates in one class: Tennessee 173, Illinois 164 and Jefferson 151.

Seven schools graduated fewer than 50 students in one class: Alabama 21, Vermont 33, Utah 35, Woman's Medical 35, Syracuse 37, Bowman Gray 38 and Albany 43.

In Canada the most graduates were at Toronto, 124, and the fewest at Alberta, 21, and Dalhousie, 28.

Of the total of 6,956 graduates in the United States and Canada during 1946-1947, 62.8 per cent possessed a baccalaureate degree. The number and percentage of graduates with a baccalaureate degree from each medical school are shown in table 22.

Production of Physicians, 1937-1942 and 1942-1947

It is now possible to give a final figure for the total number of additional physicians produced as a consequence of wartime acceleration and increased enrolments in medical schools. In measuring this aspect of the war effort of medical schools the additional physicians who will be trained by the schools that are continuing to admit classes on an accelerated program in peacetime are not included.

In the five prewar years from July 1, 1937 to June 30, 1942, 25,818 physicians were graduated from the medical schools in the United States. In the five years from July 1, 1942 to June 30, 1947, 32,877 physicians have been graduated. The accelerated program thus made possible the training of 7,059 additional physicians, an increase of 27.3 per cent over the number of physicians trained during the five year period immediately preceding the adoption of the accelerated program.

During the period July 1, 1937 to June 30, 1942, when 25,818 physicians were graduated, 18,988 physicians were reported to have died. Thus the net increase in the number of physicians for that five year period was 6,920. During the five year period July 1, 1942 to June 30, 1947, 32,877 physicians were graduated and 16,435 died, making a net increase of 16,442.

Required Internships

The medical schools requiring an internship for the degree of Doctor of Medicine are shown in table 23. There are six schools in the United States and four in Canada with this requirement. There has been no change in this list in the past four years. In the academic year 1946-1947 there were 582 students of schools in this country and 170 from Canadian schools in the required year of internship training or research. In table 12 is shown for each year since 1930-1931 the number of students from schools of the United States in the required intern year.

States requiring the internship for licensure are listed in table 24. There are twenty-three such states. In addition the District of Columbia, Alaska, Hawaii, Puerto Rico, the Canal Zone and the homeopathic boards of Arkansas and Connecticut require an internship for licensure.

The licensing boards listed in table 24 have returned to the prewar requirement of a one year internship but will continue to accept the nine month wartime internship. Several of the boards, however, require an additional three months of training in a military or civilian hospital.[1]

The licensing boards of Delaware, Hawaii, Illinois, Iowa, Michigan, New Jersey, North Dakota, Pennsylvania, Rhode Island, Utah, Washington and Wisconsin require the internship to be a rotating service.

Five states (Connecticut, Maryland, Missouri, Texas and Virginia) whose laws do not require internship withhold the licenses of candidates from schools requiring an internship for the degree of Doctor of Medicine until the internship is completed. In these states the examination may be taken at any time after completion of the medical school course.

Some states require an internship of graduates from schools abroad and applicants for reciprocity or endorsement.

in the United States in Additional Classes, 1946-1947

Marginal Number	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U. S. Terr. & Poss.	Canada	Foreign	Total	Marginal Number
1	60	..	..	..	..	1	1	..	2	..	..	..	..	2	..	2	1	..	7	1	..	2	..	..	..	1	..	..	..	..	1	2	..	..	2	..	..	95	1
2	..	..	..	..	..	1	98	..	..	3	1	..	..	..	..	..	..	1	1	..	..	1	..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	110	2
3	..	..	..	..	..	..	..	29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	3
4	..	..	..	..	1	3	1	1	..	..	..	..	..	2	..	11	1	..	2	..	..	2	..	..	1	..	..	..	..	..	1	..	32	1	5	..	..	73	4
	60	0	0	0	1	5	100	30	2	3	1	0	0	4	0	13	2	1	10	1	0	5	0	0	2	1	0	0	0	0	3	2	32	2	7	0	0	307	
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52		

TABLE 19.—*Ratio of Freshman Medical Students*[1] *to State Populations, Academic Year 1946-1947*

Number of students per 100,000 of population[2] in the medical and basic science schools of the United States

*Maine	2.2	Ohio	4.6
*Delaware	2.4	Oregon	4.6
*Arizona	2.7	Massachusetts	4.7
*New Mexico	2.8	Louisiana	4.8
Kentucky	2.9	South Carolina	4.8
Alabama	2.9	Wisconsin	4.8
*Nevada	3.1	Maryland	4.9
North Carolina	3.2	*New Jersey	5.0
*Montana	3.3	North Dakota	5.0
New Hampshire	3.3	Indiana	5.1
Michigan	3.6	Kansas	5.1
Missouri	3.6	Arkansas	5.1
*Florida	3.7	Connecticut	5.2
*Washington	3.7	*Rhode Island	5.3
Mississippi	3.7	Pennsylvania	5.3
California	3.8	Tennessee	5.4
Minnesota	3.9	Oklahoma	5.7
West Virginia	3.9	Iowa	5.7
*Idaho	4.0	District of Columbia	6.1
Georgia	4.0	New York	6.1
*Wyoming	4.1	Colorado	7.0
South Dakota	4.1	Utah	7.3
Texas	4.4	Nebraska	8.8
Virginia	4.5	Vermont	9.0
Illinois	4.5		

* States with no medical or basic science school.
1. Calculations based on one freshman class for each school.
2. 1945 estimate of U. S. Census Bureau.

1. J. A. M. A. **134**: 274 (May 17) 1947.

TABLE 20.—*Residence of Freshman Students in Medical and Basic Science Schools in the United States and Canada, 1946-1947* *

	Home State	Other State	Terr. & Poss.	Canadian	Foreign	Totals
Medical College of **Alabama**	52	0	0	0	0	52
University of **Arkansas**	81	1	0	0	0	82
University of **California**	70	2	0	0	0	72
College of Medical Evangelists	26	36	3	10	4	79
University of Southern California	57	9	0	0	1	67
Stanford University	47	12	2	0	0	61
University of **Colorado**	61	9	0	0	0	70
Yale University (**Connecticut**)	12	37	0	0	0	49
Georgetown University (**Dist. Columbia**)	8	92	3	0	1	104
George Washington University	21	60	1	0	0	82
Howard University	15	43	1	0	11	70
Emory University (**Georgia**)	30	30	0	0	0	60
University of Georgia	76	0	0	0	0	76
Loyola University (**Illinois**)	48	33	5	0	1	87
Northwestern University	48	75	2	1	1	127
Univ. of Chicago	28	29	2	0	2	61
University of Illinois	156	11	0	0	0	167
Indiana University	125	3	1	0	0	129
State University of **Iowa**	90	3	0	0	0	93
University of **Kansas**	68	5	0	0	1	74
University of Louisville (**Kentucky**)	44	41	3	0	1	89
Louisiana State University	81	11	2	0	1	95
Tulane University of Louisiana	24	91	5	0	6	126
Johns Hopkins University (**Maryland**)	7	66	1	0	2	76
University of Maryland	55	33	2	0	0	90
Boston University (**Massachusetts**)	38	29	1	0	0	68
Harvard Medical School	17	89	1	1	5	113
Tufts College Medical School	78	32	0	0	1	111
University of **Michigan**	90	24	1	0	0	115
Wayne University	64	1	0	0	0	65
University of **Minnesota**	70	12	0	1	0	83
University of **Mississippi**	26	0	0	0	0	26
University of **Missouri**	38	1	0	0	0	39
St. Louis University	29	74	5	0	3	111
Washington University	34	48	3	0	1	86
Creighton University (**Nebraska**)	12	55	5	1	1	74
University of Nebraska	87	6	0	0	0	93
Dartmouth Med. School (**New Hampshire**)	2	22	0	0	0	24
Albany Medical College (**New York**)	39	12	0	0	0	51
Long Island College of Medicine	81	28	0	0	1	110
University of Buffalo	59	8	3	0	0	70
Columbia University	61	45	2	0	3	111
Cornell University	40	44	2	0	0	86
New York Medical College	75	44	0	0	1	120
New York University	102	19	0	0	0	121
University of Rochester	27	39	0	1	0	67
Syracuse University	39	13	1	0	1	54
University of **North Carolina**	38	10	0	0	0	48
Duke University	14	58	0	0	0	72
Bowman Gray School of Medicine	19	19	0	0	0	48
University of **North Dakota**	21	1	1	0	0	23
University of Cincinnati (**Ohio**)	63	23	1	0	0	87
Western Reserve University	61	19	0	0	0	80
Ohio State University	82	1	0	0	0	83
University of **Oklahoma**	85	0	0	0	0	85
University of **Oregon**	42	28	3	1	0	74
Hahnemann Med. College (**Pennsylvania**)	47	53	2	0	1	103
Jefferson Medical College	19	58	3	0	0	100
Temple University	67	55	5	0	0	127
University of Pennsylvania	73	47	2	0	1	123
Woman's Medical College	15	31	0	0	2	48
University of Pittsburgh	85	1	0	0	0	86
Medical College of **South Carolina**	60	0	0	0	0	60
University of **South Dakota**	19	9	1	0	0	29
University of **Tennessee**	103	57	3	1	0	164
Meharry Medical College	10	57	0	0	0	67
Vanderbilt University	23	29	0	1	0	53
Southwestern Medical College (**Texas**)	47	13	1	0	0	61
Baylor University	78	7	0	0	0	85
University of Texas	105	0	0	0	0	105
University of **Utah**	33	13	0	0	0	46
University of **Vermont**	24	16	0	0	0	40
University of **Virginia**	45	24	2	0	0	71
Medical College of Virginia	59	22	3	0	0	84
West Virginia University	31	0	0	0	0	31
University of **Wisconsin**	76	5	0	1	0	82
Marquette University	40	51	4	0	1	96
University of Alberta (**Canada**)	0	0	0	42	0	42
University of Manitoba	0	0	0	70	0	70
Dalhousie University	0	0	0	52	7	59
Queen's University	0	1	0	60	0	61
University of Western Ontario	0	0	0	100	0	100
University of Toronto	0	0	0	195	0	195
McGill University	0	10	0	99	7	116
University of Montreal	0	0	0	113	4	117
Laval University	0	2	0	177	1	180
University of Saskatchewan	0	0	0	24	0	24
Totals	4,012	2,097	88	951	73	7,221

* Does not include students in additional classes.

The hospitals approved for intern training by the Council on Medical Education and Hospitals of the American Medical Association (see pages 1323 to 1334, this issue) are generally acceptable in those states requiring an internship for licensure.

Premedical Training

The minimum requirement of the Council on Medical Education and Hospitals for admission to approved medical schools since 1918 has been two years of college training, and in 1938 three years was recommended. With the exception of California the state licensing boards, by statute in the majority of instances, require that an applicant for licensure must present evidence of having completed two years of college. The two year requirement became effective in Connecticut on July 1, 1947. In November 1942 the Council on Medical Education and Hospitals recommended that, for the duration of the war, premedical education, including satisfactory courses in physics, biology and inorganic and organic chemistry, be included within two calendar years. Such a program was adopted by practically all medical schools in the United States and Canada. There is a distinct trend toward the reestablishment of the prewar requirements. There are now seventy-five of the eighty-seven schools requiring three or more years of premedical work.

TABLE 21.—*Schools, Students and Graduates in the United States, 1905-1946*

Students in the required intern year are not included

	Schools	Students *	Graduates
1905	160	26,147	5,606
1910	131	21,526	4,440
1915	96	14,891	3,536
1920	85	13,798	3,047
1921	83	14,466	3,186
1922	81	15,635	2,529
1923	80	16,960	3,120
1924	79	17,728	3,562
1925	80	18,200	3,974
1926	79	18,840	3,962
1927	80	19,662	4,035
1928	80	20,545	4,262
1929	76	20,878	4,446
1930	76	21,597	4,565
1931	76	21,982	4,735
1932	76	22,135	4,936
1933	77	22,466	4,895
1934	77	22,709	5,035
1935	77	22,888	5,101
1936	77	22,564	5,183
1937	77	22,095	5,377
1938	77	21,587	5,194
1939	77	21,302	5,089
1940	77	21,271	5,097
1941	77	21,379	5,275
1942	77	22,031	5,163
1943	76	22,631	5,223
1944	77	23,529	5,134
1944 (second session)	77	24,606	5,169
1945 (to June 30)	77	24,028	5,136
1946 (to May 31)	77	23,216	5,826
1947 (to June 30)†	77	23,900	6,389

* Includes figures for schools of the basic medical sciences.
† Includes figures for additional classes.

An important problem regarding premedical requirements is posed by the many excellent educational opportunities at the high school and college level afforded men in the armed forces. The American Council on Education recommends the awarding of certain high school and college credits for courses taken by members of the armed forces (*a*) by correspondence through the "Armed Forces Institute," which operates in collaboration with colleges and universities, and (*b*) in classroom work in various schools operated for men and women in the armed services.

The American Council on Education, representing higher education in this country, has carefully evaluated

the content and quality of the many courses given in both these categories. It has issued the "Guide to the Evaluation of Educational Experiences in the Armed Forces" to assist colleges desiring to do so to award proper high school and college credit for specific courses taken in this program.

In addition to awarding credit for courses actually taken, as already described, there is a program for evaluating a veteran's learning experiences while in the armed forces by administering "general educational development tests" and awarding appropriate credit at the high school and college levels on the basis of the examination results, even though formal course work in the subject matter of the examination was not taken by the candidate. These are comprehensive examinations developed by the Armed Forces Institute and sponsored by the American Council on Education.

TABLE 22.—*Graduates with Baccalaureate Degrees in Medical Schools in the United States and Canada, June 1, 1946 to June 30, 1947*

	Graduates	Degrees	Per Cent with Degrees
Medical College of **Alabama**	61*	33	54.1
University of **Arkansas**	108	76	70.4
University of **California**	135	120	88.9
College of Medical Evangelists	90	58	64.4
University of Southern California	66	49	74.2
Stanford University	121	121	100.0
University of **Colorado**	55	42	76.4
Yale University, **(Connecticut)**	63	48	76.2
Georgetown University, **(Dist. of Columbia)**	89	33	37.1
George Washington University	79	49	62.1
Howard University	126	88	69.8
Emory University, **(Georgia)**	55	25	45.5
University of Georgia	66	35	53.0
Loyola University, **(Illinois)**	76	34	44.7
Northwestern University	156	112	71.8
University of Chicago	62	54	87.1
University of Illinois	325	294	90.5
Indiana University	98	70	71.4
State University of **Iowa**	74	34	45.9
University of **Kansas**	73	43	58.9
University of Louisville, **(Kentucky)**	87	33	37.9
Louisiana State University	75	32	42.7
Tulane University of Louisiana	125	44	35.2
Johns Hopkins University, **(Maryland)**	79	60	75.9
University of Maryland	97	34	35.1
Boston University, **(Massachusetts)**	57	30	52.6
Harvard Medical School	131	66	50.4
Tufts College Medical School	103	69	67.0
University of **Michigan**	140	107	76.4
Wayne University	62	37	59.7
University of **Minnesota**	109	109	100.0
St. Louis University, **(Missouri)**	130	63	48.5
Washington University	97	48	49.5
Creighton University, **(Nebraska)**	55	29	52.7
University of Nebraska	77	54	70.1
Albany Medical College, **(New York)**	43	26	60.4
Long Island College of Medicine	95	41	43.2
University of Buffalo	147	60	40.8
Columbia University	113	85	75.2
Cornell University	83	53	63.9
New York Medical College	112	66	58.9
New York University	120	83	69.2
University of Rochester	66	43	65.2
Syracuse University	84	58	69.0
Duke University **(North Carolina)**	67	19	28.4
Bowman Gray School of Medicine	38	16	42.1
University of Cincinnati, **(Ohio)**	82	42	51.2
Western Reserve University	79	45	57.0
Ohio State University	77	72	93.5
University of **Oklahoma**	70	29	41.4
University of **Oregon**	69	69	100.0
Hahnemann Med. College, **(Pennsylvania)**	132	90	68.2
Jefferson Medical College	151	99	65.6
Temple University	114	76	66.7
University of Pennsylvania	132	65	49.2
Woman's Medical College	35	33	94.3
University of Pittsburgh	83	69	83.3
Medical College of **South Carolina**	50	39	78.0
University of **Tennessee**	173	53	30.6
Meharry Medical College	117	79	67.5
Vanderbilt University	43	42	97.7
Southwestern Medical College, **(Texas)**	86	20	23.3
Baylor University	90	45	50.0
University of Texas	71	33	46.5
University of **Utah**	35	29	82.9
University of **Vermont**	33	27	81.8
University of **Virginia**	67	41	61.2
Medical College of Virginia	83	57	68.7
University of **Wisconsin**	60	60	100.0
Marquette University	87	47	54.0
University of Alberta, **(Canada)**	21	20	95.2
University of Manitoba	63	26	41.2
Dalhousie University	28	9	32.1
Queen's University	41	11	26.9
University of Western Ontario	34	4	11.8
University of Toronto	124	14	11.3
McGill University	92	77	83.7
University of Montreal	79	79	100.0
Laval University	85	85	100.0
Totals	6,956	4,369	62.8

* Includes additional class.

TABLE 23.—*Medical Schools Requiring an Internship*

United States
College of Medical Evangelists
University of Southern California School of Medicine
Stanford University School of Medicine
Northwestern University Medical School
University of Minnesota Medical School
Duke University School of Medicine *
Canada
University of Alberta Faculty of Medicine
University of Manitoba Faculty of Medicine
Dalhousie University Faculty of Medicine
University of Montreal Faculty of Medicine

* Degree not withheld until internship completed.

The Council on Medical Education and Hospitals has agreed to these recommendations in principle in the following statement:

High School and College Credit for Veterans

A. Courses at the high school and college level have been offered to members of the armed forces,

1. by correspondence through the "Armed Forces Institute," which operates in collaboration with colleges and universities, and

2. in classroom work in various schools operated for men and women in the armed services.

The American Council on Education, representing higher education in this country, has carefully evaluated the content and quality of the many courses given in both these categories. It has issued the "Guide to the Evaluation of Educational Experiences in the Armed Forces" to assist colleges desiring to do so to award proper high school and college credit for specific courses taken in this program.

B. In addition to awarding credit for courses actually taken, as described in A, there is a program for evaluating a veteran's knowledge in a given field by administering "General Educational Development Tests" and awarding appropriate credit at the high school and college levels on the basis of the examination results, even though formal course work in the subject matter of the examination was not taken by the candidate. These are comprehensive examinations developed by the Armed Forces Institute and sponsored by the American Council on Education.

TABLE 24.—*Medical Licensing Boards Requiring a One Year Internship* †

Alabama	*New Jersey	*Washington
*Delaware	New Mexico	West Virginia
District of Columbia	*North Dakota	*Wisconsin
Idaho	Oklahoma	Wyoming
Illinois	Oregon	
Iowa	*Pennsylvania	Alaska
Michigan	*Rhode Island	Canal Zone
Montana	South Dakota	*Hawaii
Nevada	*Utah	Puerto Rico
New Hampshire	Vermont	Virgin Islands

† Some states require the internship from graduates of medical faculties abroad and from reciprocity or endorsement applicants.
* Internship must be rotating service.

C. The Council on Medical Education and Hospitals of the American Medical Association (*a*) has confidence in the American Council on Education and its "Guide to the Evaluation of Educational Experiences in the Armed Forces," in the Armed Forces Institute and in the General Educational Development tests and (*b*) wishes to support sound procedures permitting veterans to commence their education in civilian institutions at a level commensurate with their ability and knowledge. There-

fore the Council has decided that approved medical schools desiring to accept students at the freshman level partially on the basis of high school or college awarded credit as described in A and B will not be in conflict with the Council's regulations and policies, except that college credit for science courses requiring laboratory work should not be allowed on this basis, nor should blanket credit be allowed for military service not based on courses or examinations. Specifically, a medical college may accept, in partial fulfilment of premedical requirements:

1. High school credits, based on

(*a*) Courses taken from the Armed Forces Institute or in service courses of the armed forces according to the "Guide to the Evaluation of Educational Experiences in the Armed Forces."

(*b*) Performance in the General Educational Development Tests; such credit may include the equivalent of a complete high school course.

2. College credits (except in science courses requiring laboratory work, or except blanket credits for military services not based on courses or examinations), based on

(*a*) Courses taken from the Armed Forces Institute or in service courses of the armed forces according to the "Guide to the Evaluation of Educational Experiences in the Armed Forces."

(*b*) Performance in the General Education Development Tests.

The licensing boards of all but four states have indicated that the awarding of premedical credits under this plan by approved medical schools as the equivalent of the required premedical training will satisfy the requirement for licensure.

The Army Specialized Training and Navy V-12 premedical programs called for less than two years of college training, but in both these programs the studies were continuous and provided for the student carrying more than the normal peacetime studies per semester. Both the Army and Navy programs provided for work well in excess of the sixty semester hours constituting the normal two academic years of medical study. The information received from those states whose licensure laws include specific premedical requirements seems to indicate that there should be no licensure difficulties encountered by students whose premedical work was taken under the Army Specialized Training or Navy V-12 or comparably accelerated civilian programs.

The 1947 Freshman Class

By June of this year the medical schools and schools of the basic medical sciences in the United States had already selected 6,252 students for admission in 1947. This group is composed of 4,399 male veterans (70 per cent), 1,301 other men (21 per cent) and 598 women (9 per cent). Forty-seven of the women are veterans.

These preliminary figures indicate that next year's freshman enrolment in medical schools in this country will be close to the figure for the peak year, the 1944 "second session," when 6,648 freshmen were enrolled. It would also appear that there will be more veterans in the 1947 freshman class than in the present year and somewhat fewer women.

By June a number of schools had already admitted more freshman students than they had admitted in any one session during the war years. In ten schools present figures indicate that the freshman classes in 1947-1948 will be at least 10 per cent larger than those enrolled in 1941-1942. In one school the scheduled freshman enrolment for 1947-1948 already exceeds the 1941-1942 figure by 30 per cent.

It is appropriate to comment at this place that certain schools have strengthened their faculties and increased their physical facilities sufficiently to enable them to increase their enrolments above the prewar level without impairing the quality of instruction. Unfortunately such justification for expanded enrolments does not exist for all the schools that are admitting an increased number of freshmen.

Fees

The eighty-seven medical schools in the United States and Canada have been arranged in six groups in table 25 according to tuition fees charged resident students for the session 1946-1947. The figures are based on the average tuition fee charged for the complete medical course and include such minor charges as those for matriculation, breakage, diploma and graduation.

An upward trend in tuition fees is still continuing. The average tuition fee for an academic year charged by medical schools in the United States in the past seven years has increased from $378 in 1940 to $459 in 1947. However, this is an increase of 21 per cent, which is considerably less than the increase in the costs of most services and commodities during the same period.

Thirty-three schools in the United States and five in Canada make an additional charge for nonresidents. These sums vary considerably in amount. The lowest charge is at Toronto, where nonresidents in the freshman class pay $5 a year and nonresidents in other classes pay $10. The highest nonresident fees are at Oklahoma ($350) and Louisiana ($400).

TABLE 25.—*Fees in Medical and Basic Science Schools in the United States and Canada, 1946-1947*

	Number of Schools
Under $99	0
$100 to 199	7
200 to 299	14
300 to 399	14
400 to 499	12
500 to 599	16
600 or over	24
Total	87

The Financing of Medical Schools

The budgets of the medical and basic science schools in the United States for the academic year 1947-1948 total somewhat more than $43,000,000. In reporting the figures from which this sum was compiled, the medical schools excluded, with a few partial exceptions, the costs of patient care in their teaching hospitals. Research grants from foundations, governmental agencies and other outside sources were also excluded.

The figures from some medical schools incorporated allowances for general university administration and plant maintenance. Other schools did not include one or both of these items. The lack of uniformity in reporting these costs, however, does not detract significantly from the validity of the total figure as a close approximation of the cost of operating the medical schools of this country for the coming year.

One other correction must also be applied. Four schools had only their budgetary figures for 1946-1947 available and the most recent figures that one school could provide were those for 1945-1946. Again, it is believed that these corrections would not alter the total significantly.

Of the total of $43,000,000 that will be needed to operate the medical schools of this country in the

coming year, students' fees will provide no more than $12,000,000 and probably somewhat less. The remaining $31,000,000 will be obtained from income from endowments, general university funds, appropriations from tax funds, gifts and similar sources. The fact that only 28 per cent or less of the total cost of undergraduate medical education next year will be met by student fees is impressive evidence for the frequently repeated statement that income from tuition provides but a small fraction of the financial support required by medical schools.

Because there is a fourfold variation in size between the smallest and the largest medical schools in this country, a meaningful comparison of budgets can be made only by determining the expenditures per student for each school. Employing the enrolment statistics for 1946-1947, the latest complete figures available, the range of expenditures per student planned by the medical and basic science schools in this country for 1947-1948 is found to extend from $600 to over $5,000.

In table 26 the seventy-seven medical and basic science schools in the United States have been arranged in eight groups according to their anticipated expenditures per student for 1947-1948.

TABLE 26.—*Expenditures per Student by the Medical and Basic Science Schools in the United States, 1947-1948*

Excluding research funds from outside sources

	Number of Schools
$ 600 to 999	12[1]
1,000 to 1,499	22[2]
1,500 to 1,999	15
2,000 to 2,499	14
2,500 to 2,999	5
3,000 to 3,999	5
4,000 to 4,999	1
Over 5,000	3
Total	77

1. 1946-1947 expenditure for one school; 1945-1946 expenditure for one school.
2. 1946-1947 expenditures for three schools.

The figures from many schools indicate that in recent years there has been an appreciable increase in the operating funds that have been secured over and above student fees. Five schools, however, are still unable to provide from nonstudent sources as much as fifty cents for every dollar of tuition collected. Twelve other schools cannot yet match student fees dollar for dollar. It would seem clear that the schools in these two groups must be furnished with more adequate financial support if they are to offer training comparable in quality to that provided in the majority of the medical schools of this country.

Present figures indicate that the medical schools of this country will receive about $10,000,000 in grants from foundations, government agencies and other sources during the coming year. Most of these grants are primarily for research projects, although some are being given for the express purpose of improving instructional programs.

There is a wide range in the sums that will be obtained in the form of grants by the different schools. Several schools do not anticipate receiving any grants. At the other extreme, one school is receiving grants totaling more than $750,000 and five other schools are receiving total grants of $500,000 or more. In addition to these schools, twenty-one others are receiving grants ranging from $100,000 to $490,000 for the next academic year.

Medical Schools Affiliated with Veterans Administration Hospitals

Fifty-five of the four year schools and one of the basic science schools in the United States are now affiliated with one or more Veterans Administration hospitals. One school is affiliated with a Veterans Administration clinic and four schools are prepared to affiliate as soon as hospitals which are to be constructed in their vicinity are in operation.

While there is some variation in the scope of activity carried on by the various medical schools and in the responsibilities which they have assumed, all the schools have undertaken to develop and supervise educational programs of high quality for the residents in the hospitals with which they have affiliated. This program has greatly increased the attractiveness of the residencies in these hospitals for able young physicians and in many other ways has directly and indirectly brought about remarkable improvements in the quality of patient care rendered in these institutions.

As of June 1947, forty-five of the participating medical schools stated without qualification that the affiliation was operating in a satisfactory manner. Seven other schools expressed satisfaction with the program, but with qualifications. Five schools did not express an opinion about the operation of the program.

Basic Science Training for Residents

Each specialty board requires that candidates for certification demonstrate a sound knowledge of the basic medical sciences as they apply to the given specialty. Certain boards recommend or require that the candidate's preparation for certification include time spent in a formal course of study in one or more of the basic medical sciences.

The basic science departments of fifty-eight of the seventy medical schools in this country now offer some form of organized training for the residents of their own or affiliated hospitals. In some schools such training is limited to one or two subjects; in others courses are offered in all, or almost all, the basic medical sciences.

Eleven medical schools provide organized basic science training only for the residents of their own hospitals, eight offer such courses only for affiliated hospitals and thirty-nine admit to their courses both the residents of their own hospitals and those of affiliated institutions, including Veterans Administration hospitals.

During the past year the desirability of having medical schools increase their efforts to provide formal basic science training for residents has been questioned on two grounds. It has been urged that the most valuable form of basic science training for physicians seeking to perfect themselves in the practice of one of the branches of medicine is that which stresses the clinical application of the basic medical sciences. The opinion is widely held that such training is provided more effectively in the wards and laboratories of the hospitals that are training residents than it is in the classrooms or laboratories of a medical school.

The other important objection that has been raised against the development by medical schools of formal courses for residents is that most medical schools do not have the personnel or the physical equipment to provide satisfactory training for residents without impairing the quality of their undergraduate instruction.

In view of the general lack of enthusiasm for providing such courses which the medical schools displayed earlier this year, it is somewhat surprising to find that fifty-eight schools are now furnishing this type of training. The experience of these schools over the next several years should provide valuable information for determining how much responsibility it is desirable and advisable for medical schools to assume in this phase of graduate training.

New Medical Schools

One new medical school, the University of Washington School of Medicine, opened in Seattle during the past year. This school, which is planning the development of a four year program, admitted its first freshman class in the fall of 1946. During the coming academic year the school will have both a freshman and a sophomore class enrolled.

The development of new medical schools is being actively considered in several other states. In last year's Educational Number it was mentioned that every school of the basic medical sciences except Dartmouth had expansion to the full four year status under consideration. In the interval Mississippi and South Dakota have abandoned, at least for the present, plans for immediate expansion. Expansion has been authorized by law in North Carolina, North Dakota and Missouri. A final decision has not yet been reached in West Virginia.

The University of California has been authorized to develop a four year medical school in Los Angeles. Funds have been appropriated to initiate a building program, and a dean has been appointed.

The Florida legislature has authorized the University of Florida to establish a medical school at Gainesville. The University of Miami is also contemplating the development of a school of medicine.

Other universities that are reported to be actively considering the creation of medical departments are Rutgers and the University of Connecticut. In several other states preliminary discussions have been initiated concerning the advisability and desirability of founding new medical schools.

It would seem clear that a gradual expansion of the facilities for medical education in this country will occur during the next several years. It is essential that this expansion be carefully planned with respect to the ability of the sponsoring agencies to establish and maintain medical schools that will provide training of unquestioned quality. In the field of higher education there is no undertaking more expensive than the establishment of an acceptable medical school. The expansion of opportunities for training in medicine should also be guided by the accurately determined quantitative needs of this country for physicians.

Survey of Medical Education

The last comprehensive survey of medical education in this country was that conducted by the Council on Medical Education and Hospitals during the period 1934-1936. The findings of this survey and supplementary studies were published in 1940 in what has come to be known as the "Weiskotten report." This report proved to be of great value in providing specific information concerning the status of medical education in this country. It also led to the prompt correction of many of the deficiencies that were brought to light.

The Board of Trustees of the American Medical Association has now authorized the Council on Medical Education and Hospitals to conduct another comprehensive survey of medical education in this country. The Council will be joined in this survey by the Association of American Medical Colleges. Representatives of these two organizations are now developing plans for a survey designed to provide current, reliable information which can serve as a basis for further improvements and advances in medical education in this country.

APPROVED INTERNSHIPS, RESIDENCIES AND FELLOWSHIPS

Revision of Residency Standards

The standards governing the approval of residencies in specialties have recently been revised by the Council on Medical Education and Hospitals in cooperation with the American specialty boards. These new Essentials of Approved Residencies and Fellowships were officially adopted by the House of Delegates of the American Medical Association at its centennial session in Atlantic City in June 1947. Under the present standards approval of residency training programs may be extended in the following classifications:

1. Allergy
2. Anesthesiology
3. Cardiovascular Disease
4. Contagious Diseases
5. Dermatology and Syphilology
6. Gastroenterology
7. General Residency
8. Internal Medicine
9. Malignant Diseases
10. Neurological Surgery
11. Neurology
12. Obstetrics and Gynecology
13. Occupational Medicine
14. Ophthalmology
15. Orthopedic Surgery
16. Otolaryngology
17. Pathology
18. Pediatrics
19. Physical Medicine
20. Plastic Surgery
21. Proctology
22. Psychiatry
23. Pulmonary Diseases
24. Radiology
25. Surgery
26. Thoracic Surgery
27. Urology

In comparison with the 1939 revision it will be noted that four new classifications have been added to the residency list, namely allergy, gastroenterology, occupational medicine and proctology. On the other hand, the separate listing of residencies in epilepsy, mental deficiencies and traumatic surgery has been discontinued. Training programs in epilepsy and mental deficiencies would now fall under the classification of psychiatry and neurology, whereas those in traumatic surgery have been transferred either to general surgery or to orthopedic surgery. There has also been a change in terminology in several fields, giving a clearer definition of the scope and type of training involved. Residencies in cardiology have been changed to cardiovascular disease, those in communicable diseases to contagious diseases, mixed residencies to general residencies, physical therapy to physical medicine and tuberculosis to pulmonary diseases.

As in the previous revision, the present standards describe the general requirements applicable to all types of residency training, the special requirements pertaining to individual specialties, resident-intern relationships, the recording of credit in the biographic files of the American Medical Association and the procedures involved in the evaluation and approval of residency training programs. All sections have been fully revised, however, giving a clearer definition of the general and

special requirements in each field, quantitative requirements in relation to clinical material, applied basic science instruction and board requirements in those fields in which certifying boards have been organized. New regulations have been included in several divisions which were not fully described in the previous Essentials. Under general requirements a section on Teaching and Investigation has been added as well as a comprehensive statement clarifying the requirements in regard to basic science training. While it is pointed out that a resident seeking certification should be able to apply the basic sciences of anatomy, bacteriology, biochemistry, pathology, pharmacology and physiology to his special field, it is equally emphasized that "such training does not necessitate formal course work, specific assigned laboratory exercises or affiliation of the residency hospital with a medical school; it should be distinctly of an applied nature, closely integrated with the clinical experience of the resident."

The new Essentials of Approved Residencies and Fellowships, published elsewhere in this issue, will be reprinted and distributed to all approved hospitals, medical schools, specialty boards and other agencies concerned in the development and maintenance of educational services for resident physicians.

Residencies in Specialties

The number of approved residencies in civilian hospitals in the United States has increased by more than 100 per cent since 1941. The present total of 12,003 residencies as compared with 5,256 at the beginning of the war illustrates not only the tremendous expansion that has taken place in recent years but reflects also the generous cooperation and support of the large number of physicians, hospitals, medical schools and other agencies through whose efforts the development of additional residency training programs has been made possible. In 1941 the hospitals approved by the American Medical Association for the training of resident physicians totaled 610. This number has now increased to 1,017, including 9 hospitals of the Army, 16 of the Navy, 8 of the U. S. Public Health Service and 51

TABLE 27.—*Approved Internships, Assistant Residencies and Residencies—1947*

Hospitals approved for internships	764
Number of approved internships	8,539
Hospitals offering approved residencies in one or more specialties	1,017
Number of approved residency training programs	3,171
Total number of individual residencies offered	12,003

	Number of Internships§	Number of Assistant Residencies and Residencies Offered *																	
		Anes.	Derm. Syph.	Gen. Res.[a]	Int. Med.†	Neur. Psy.	Neur. Surg.	Ob. Gyn.	Oph. Otol.[b]	Orth. Surg.	Path.	Ped.	Phys. Med.	Plas. Surg.	Proct.	Rad.	Surg.‡	Uro.	Total Residencies
Alabama	56	2	1	11	11	..	2	7	2	4	5	6	..	..	..	3	11	2	67
Arizona	17	..	..	2	1	..	..	..	..	1	..	..	..	..	..	1	1	..	6
Arkansas	28	..	..	1	2	15	..	5	3	..	1	..	..	..	..	..	2	..	29
California	580	40	12	51	266	102	10	63	30	42	39	44	6	..	..	40	133	31	909
Colorado	74	..	1	7	19	26	..	4	3	8	12	15	3	..	..	8	8	1	115
Connecticut	185	33	..	6	38	31	5	17	3	7	6	7	..	..	..	8	23	3	187
Delaware	28	3	..	..	4	6	..	..	..	3	1	1	..	..	..	1	4	..	23
District of Columbia	138	16	2	3	55	15	..	29	10	6	12	34	..	..	..	12	35	3	232
Florida	49	..	..	1	7	..	2	2	..	2	1	..	..	..	..	1	9	2	27
Georgia	102	3	1	..	37	1	7	19	8	6	8	11	..	..	..	7	40	5	153
Idaho	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Illinois	684	30	13	21	163	116	15	120	63	33	70	55	5	2	1	52	147	18	924
Indiana	175	11	1	5	27	31	..	12	12	14	14	5	..	..	..	15	19	5	171
Iowa	64	10	2	2	12	8	..	8	14	9	6	7	..	..	..	11	19	8	116
Kansas	48	2	2	..	10	127	1	5	3	5	3	1	3	2	..	8	9	1	182
Kentucky	77	3	1	2	35	28	2	7	3	7	3	9	..	..	..	7	23	2	132
Louisiana	224	8	5	6	40	10	2	24	29	24	16	19	..	3	..	13	43	14	256
Maine	21	2	..	..	3	..	..	..	..	..	2	1	..	..	..	..	6	..	14
Maryland	278	..	7	..	80	42	7	53	17	9	12	16	..	..	1	14	87	6	351
Massachusetts	424	34	7	27	185	152	12	28	23	25	26	20	2	..	..	27	118	19	705
Michigan	365	5	13	19	185	65	3	55	33	16	19	47	..	2	1	33	196	17	709
Minnesota	152	32	17	12	186	42	11	28	35	31	17	37	8	4	8	27	173	18	686
Mississippi	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	4	..	7
Missouri	317	2	6	6	97	43	5	32	30	18	19	29	..	6	..	26	81	12	412
Montana	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Nebraska	55	..	..	3	8	14	1	2	1	3	5	1	..	..	..	3	5	..	46
Nevada	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
New Hampshire	9	..	..	5	3	1	..	..	..	..	2	..	..	..	..	1	..	..	12
New Jersey	386	7	..	..	40	14	..	24	8	9	16	4	..	2	..	6	24	6	160
New Mexico	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
New York	1,585	75	36	30	499	277	36	174	163	116	126	135	10	14	1	127	430	56	2,305
North Carolina	122	4	1	6	37	4	..	14	5	8	11	16	..	..	..	11	46	7	170
North Dakota	5	..	..	3	2	..	..	..	..	..	..	1	..	..	..	3	4	..	13
Ohio	432	15	12	13	183	41	9	72	24	24	37	52	1	..	4	42	185	13	727
Oklahoma	53	2	..	..	7	3	1	3	2	11	3	8	..	2	..	1	6	1	50
Oregon	68	6	1	..	25	2	3	7	7	9	9	3	3	..	..	7	11	4	97
Pennsylvania	786	34	17	4	122	126	7	53	49	29	67	57	1	3	17	58	113	22	779
Rhode Island	42	3	..	..	8	13	..	2	..	2	2	4	..	..	..	1	4	..	39
South Carolina	38	..	..	..	17	..	..	6	..	9	3	5	..	..	..	2	7	7	56
South Dakota	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tennessee	144	16	..	2	23	..	6	22	10	22	12	18	..	..	..	17	42	8	198
Texas	212	14	12	7	50	49	1	28	7	20	12	26	..	..	..	15	51	5	297
Utah	44	3	..	..	18	..	..	8	..	..	1	2	..	..	..	4	7	..	43
Vermont	9	2	..	..	9	2	1	2	..	..	3	2	..	..	..	2	3	1	27
Virginia	127	..	6	16	48	24	7	11	17	11	3	8	1	..	..	11	32	10	205
Washington	124	..	..	4	22	14	..	4	2	7	3	1	..	..	..	4	17	..	78
West Virginia	40	..	..	17	14	..	..	1	..	4	2	..	..	..	..	..	12	..	50
Wisconsin	161	12	3	4	77	26	..	10	14	10	8	10	2	2	1	8	38	10	235
Wyoming	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Individual residencies—1947	...	429	180	296	2,677	1,470	156	961	630	565	617	717	45	42	34	638	2,229	317	12,003
Approved residency programs—1947	...	131	66	94	512	241	58	292	149	226	269	180	24	16	11	296	466	140	3,171¶
Individual residencies—1941	...	121	78	183	1,126	497	36	442	441	200	332	393	5	8	..	250	1,007	137	5,256

* Includes fellowships.
† Includes 18 residencies in allergy, 19 in cardiovascular disease, 70 in contagious diseases and 300 in pulmonary diseases.
‡ Includes 94 residencies in malignant diseases and 66 in thoracic surgery.
¶ Number of residency programs in 992 hospitals approved for residency training (residency programs in 9 Army and 16 Navy hospitals not included).
§ Total internships 8,539 plus 64 in Canal Zone, Hawaii and Puerto Rico.
a. Approximately 500 additional general residencies available in hospitals approved for intern training which are likewise accredited for general residencies.
b. Includes 316 residencies in opthalmology and 314 in otolaryngology.

of the Veterans Administration. Expansion of residency training programs has occurred in all specialties. On a percentage basis the greatest increase is in the fields of anesthesiology, neurologic surgery, physical medicine and plastic surgery, excluding in this connection the divisions of allergy and proctology, which were not represented in the previous classification. Numerically the specialty of internal medicine predominates, with a total of 2,677 residencies as compared with 1,126 in the prewar period. General surgery increased from 1,007 to 2,229, psychiatry and neurology from 497 to 1,470, obstetrics and gynecology from 442 to 961, pediatrics from 393 to 717, radiology from 250 to 638, ophthalmology and otolaryngology from 441 to 630, pathology from 332 to 617 and orthopedic surgery from 200 to 565. Included in internal medicine are 18 residencies in allergy, 19 in cardiovascular disease, 70 in contagious diseases and 360 in pulmonary diseases, formerly classified as tuberculosis. Grouped with general surgery, on the other hand, are 66 residencies in thoracic surgery and 94 in malignant diseases. Neurology has 173 residencies, psychiatry 1,297.

While residency training is centered mainly in the specialty fields, it should be noted that many of the hospitals approved by the Council have established educational programs designed primarily to provide additional experience in preparation for general practice. These services, which are similar to second year rotating internships, are ordinarily classified as general or mixed residencies. At present 94 hospitals hold separate approval for general residency training and can accommodate 296 applicants. In addition, nearly 500 general residencies are available in the approved internship hospitals, all of which are likewise accredited for general residency training. The organization and maintenance of residencies of this type are an important development in providing opportunities for the training of physicians planning to practice general medicine. This is also in keeping with the development of general practice sections in hospitals as recommended by the Council on Medical Education and Hospitals of the American Medical Association.

Reference should be made to the accompanying table showing the number and classification of residencies now provided in 992 approved hospitals, excluding, however, the residency training programs of the Army and Navy. Comparative data have also been included on the number of residencies available in 1941. The hospitals of the Army, Navy, U. S. Public Health Service and Veterans Administration are taking an active part in the program of residency training and can accommodate over 2,000 resident physicians, as described in THE JOURNAL, April 12, 1947. These institutions are making steady progress in the development and organization of educational services, a large number of which have already received Council approval. Elsewhere in this issue is a full list of the residency training programs currently approved by the American Medical Association.

Approved Hospital Internships

The list of approved internships published in this issue of THE JOURNAL shows that there are within the continental limits of the United States 764 civilian hospitals approved by the American Medical Association for the training of interns. These institutions can accommodate 8,539 interns, as compared with an average yearly total of approximately 5,500 medical graduates. On direct comparison of the number of internships and senior medical students it would seem that the facilities for intern training greatly exceed the required need. It is found on closer study, however, that the size of the graduating class ordinarily does not determine the number of interns engaged in hospital training. In 1939, for example, when 7,765 internships were available, the approved hospitals employed 7,448 interns as compared with 5,089 medical graduates. A similar observation in 1940 gives further indication that under normal conditions a reserve supply of over 2,000 internships may be necessary to meet the needs of those who desire an additional year of general hospital experience.

In the possessions and territories of the United States there are 8 approved internship hospitals: 1 in the Canal Zone, 3 in Hawaii and 4 in Puerto Rico. These have facilities for the training of 64 interns. The Navy, which is training approximately 120 interns, is concentrating its educational service in 20 general hospitals approved by the Council. The Army has reestablished its intern training program and will accommodate approximately 100 interns in 8 Army general hospitals approved by the American Medical Association. The U. S. Public Health Service has facilities for 120 interns in 10 Marine hospitals.

The hospital internships have now returned to a peacetime status, maintaining as a general rule a minimum assignment of one year in accordance with the usual July to July schedule. A further extension of the internship to two years is under consideration in several hospitals in order that interns may obtain wider and more adequate experience in the general preparation for medical practice. The uniform plan for the appointment of interns is described in THE JOURNAL, April 12, 1947.

POSTGRADUATE COURSES FOR VETERAN AND CIVILIAN PHYSICIANS

An important aid to the physician desiring to keep abreast of the progress of medicine is the offering of continuation courses throughout the country. Since 1937 the Council on Medical Education and Hospitals has collected and published periodically lists of courses of a review and refresher nature. These listings include courses in a wide variety of fields in clinical medicine and in the basic sciences. The courses are for variable periods from a few days to several months. Some are concentrated full time courses and others are part time. In the June 14 and June 21 issues of THE JOURNAL more than eight hundred courses offered by numerous institutions and organizations are listed covering the period from July 1, 1947 to Jan. 15, 1948. The medical schools take a prominent part in presenting these courses. In addition, other agencies offering courses employ the facilities of the medical schools. The institutions and individuals participating in these programs are rendering a great service to the profession and to the physician veterans. Institutions offering this type of training are invited to announce such courses in these semiannual lists compiled by the Council.

These continuation or review courses do not ordinarily provide credit of any kind, as the courses are not designed to prepare men for board certification. Some opportunities are offered for review work in

preparation for examinations in the specialties as given by the boards. They are applicable to the educational benefits provided physician veterans under the G. I. Bill of Rights.

In the following paragraphs mention is made of some of the recent and noteworthy developments in postgraduate education. An analysis of the courses offered during the period July 1, 1946 to July 1, 1947 is also presented.

Recent Developments

The Chicago Medical Society is expanding its services and plans to offer postgraduate courses open to physicians of the country. Two courses, one in cardiovascular diseases and another in gastroenterology, have already been scheduled.

The Illinois State Medical Society sponsors one day conferences in all parts of the state. They are arranged at the request of the secretary of the county medical society. These may consist of round table conferences and clinics in addition to speakers.

The Department of Otolaryngology of the College of Medicine of the State University of Iowa has announced the presentation of a five day intensive course covering the specialties of otology, rhinology and laryngology.

The program of postgraduate instruction in Kansas is a joint undertaking of the state board of health, the state medical society and the University of Kansas School of Medicine.

Tulane University School of Medicine offered a course of one week full time in obstetrics and gynecology designed for Latin American physicians.

The Mississippi State Board of Health will offer scholarships for courses in maternal and child health at Tulane University.

The affiliation of the New York Post-Graduate Medical School and the New York Eye and Ear Infirmary with Columbia University has been discontinued. During the year 1946-1947 the New York Post-Graduate School enrolled a total of 1,119 physicians, of whom 615 were physician veterans. Physicians were enrolled from forty-four states, the District of Columbia, two of the territories and thirty-six foreign countries. This was the third largest enrolment in the school's history.

The county medical societies of New York State regularly schedule postgraduate lectures. This instruction is presented as a cooperative endeavor between the medical society of the state and the state department of health.

The Medical Society of the State of Pennsylvania will, beginning Oct. 7, 1947, inaugurate a program consisting of eight hours of didactic instruction one day a week for five weeks given by teachers from the various medical schools of the state. This will be a continuous course for three years, offered twice a year. The forthcoming course will be offered in six towns, and four subjects are scheduled.

Meharry Medical College offers courses for Negro physicians.

The American Academy of Ophthalmology and Otolaryngology offers home study courses through nine months corresponding to the school year. Reading assignments are mailed each month followed by questions sent four weeks later. The courses are of a basic nature and are usually taken by residents.

Postgraduate Medicine, a monthly journal, was published beginning January 1947 by the Interstate Postgraduate Medical Association of North America. Much of the basic material consists of addresses presented at the annual meeting of this association, but it is expected that new material will be supplemented, originating in various postgraduate centers.

Analysis of Courses Offered in 1946-1947

In presenting this analysis of postgraduate courses which have been offered during the annual period July 1, 1946 to July 1, 1947 the statistical summaries are divided into three groups: short review courses, courses of more than five days' duration and, lastly, a group including clinical conferences, graduate assemblies, study courses and courses of a chautauqua nature.

Short Review Courses.—Twenty-five states and the District of Columbia provided opportunities of less than five days' duration for physicians to continue professional study in or near their home communities. These twenty-five states and the District of Columbia offered 239 courses as follows:

Alabama 2	Massachusetts ... 5	Oklahoma 10
California 26	Michigan 11	Oregon 1
Colorado 7	Minnesota 13	Pennsylvania 5
Connecticut 3	Missouri 1	South Carolina ... 2
District Columbia .. 1	Nebraska 1	Tennessee 1
Illinois 9	New Jersey 5	Texas 12
Iowa 4	New York 89	Virginia 4
Kansas 17	North Carolina ... 2	Wisconsin 5
Kentucky 2	Ohio 2	—
Totals		239

The subjects of these courses of less than five days' duration included:

Allergy	Medicine, general
Anesthesiology	Neurology and psychiatry
Arthritis	Obstetrics and gynecology
Biochemistry	Ophthalmology
Cardiovascular disease	Orthopedic surgery
Chest diseases	Otolaryngology
Dermatology and syphilology	Otology
Diabetes	Pathology
Electrocardiography	Pediatrics
Electroencephalography	Physical medicine
Endocrinology	Physiology
Endoscopy	Proctology
Fractures	Public health
Gastroenterology	Radiology
Hematology	Surgery, general
Industrial health	Therapy
Legal medicine	Urology
Malignant diseases	Venereal diseases

The courses varied in length from one session of one and one-half hours to five days' full time and consisted of organized courses, daily set clinics on patients in the wards and evening lectures, with emphasis on recent developments. The type of instruction was didactic, clinical or both. The instructors were chosen from physicians practicing in the state in which the courses were offered as well as from out of state. Medical school faculties participated in 150 courses. The facilities used included hospitals, clinics, medical schools and hotels.

These offerings were held in every month but August, the majority being given in January, April, September and October, while in 21 instances they were arranged at the convenience of the applicant. Thirty-seven courses were available for specialists only. Fees ranged from $3 to $200, the majority under $50. In 37 instances no fee was charged.

The attendance reported for 205 courses was 16,274, while 34 did not indicate enrolment figures.

The value of this type of instruction to the busy practitioner is becoming more popular, since it enables

him to obtain information regarding newer technics in medical practice without the necessity of prolonged absence from his practice.

Courses of More Than Five Days.—In centers where ample clinical facilities are available, 1,291 graduate courses of more than five days' duration were offered in thirty-one states and the District of Columbia during 1946-1947. These states and the number of courses which were given in each state are as follows:

Alabama	4	Louisiana	26	North Carolina	56
California	52	Maine	2	Ohio	7
Colorado	1	Maryland	13	Oregon	17
Connecticut	1	Massachusetts	59	Pennsylvania	56
District Columbia	52	Michigan	104	Tennessee	19
Florida	1	Minnesota	25	Texas	14
Georgia	10	Mississippi	3	Vermont	7
Illinois	176	Missouri	10	Virginia	10
Iowa	18	Nebraska	9	Washington	3
Kansas	10	New Jersey	7	Wisconsin	15
Kentucky	3	New York	501		
Totals					1,291

These courses, consisting of refresher courses of five or more days to intensive courses extending over one year and in 3 instances to three years, were offered in both the basic sciences and clinical subjects. Forty-six subjects were covered. While the majority of the courses were in various subjects, specific courses in general medicine were offered in 193 instances, surgery in 125, neurology and psychiatry in 101, obstetrics and gynecology in 104, ophthalmology in 92, pediatrics in 62, dermatology and syphilology in 45 and anatomy in 40. Fewer than five courses were given in 9 subjects.

The length of these courses varied from five days to one month for 517 courses. There were offered 307 courses ranging in length from one to four months and 69 from five to twelve months. There were 18 one year courses and 3 given for three years, while the remainder specified the length of the course in hours, sessions, seminars, semesters or quarters.

The description of these intensive courses indicated that instruction was both clinical and didactic. Instruction was both didactic and clinical for 668 courses, didactic only for 90 and clinical only for 126. The remainder did not specify the type of instruction.

In presenting these courses, medical school facilities were used for 783 courses, hospitals for 752 and clinics for 495. In many instances two or all three of these sources were used in presenting an individual course. Hotel and other facilities were used for 42 courses. One course was a home study course.

The faculties of medical schools served as instructors in 757 courses. Additional instructors were specialists in their field, chosen mainly (in 474 instances) from physicians residing within the state in which the course was given but including as well physicians from outside the state.

Courses were offered during every month last year, and in 206 instances they were arranged to suit the convenience of physician-students. There were 115 courses available for specialists only. Fees varied considerably, ranging from $1 to $1,000. In 53 instances no fee was charged.

The attendance reported for 1,137 of the 1,291 courses given in 1946-1947 was 23,062.

Sponsoring and Contributing Agencies.—One hundred and thirty-five agencies participated in the sponsoring of both the short review courses and the longer courses. These included 52 medical schools, 35 special societies, 16 hospitals, 14 state societies, 8 graduate schools, 6 county societies, 2 state health departments and 2 universities.

Twenty-one agencies, while not responsible for the development of these opportunities, were reported as contributing agencies. Grouped under special societies in addition to the national society in a given specialty are such agencies as the W. W. Kellogg Foundation, Commonwealth Fund, National Cancer Institute, Foundation for Vision and National Foundation for Infantile Paralysis.

Clinical Conferences, Graduate Assemblies, Study Courses, Chautauqua Courses.—In eleven states clinical conferences, graduate assemblies and study courses were held during 1946-1947. These opportunities varied in length from two sessions to two weeks, with the four day program being most common. Fourteen such meetings were conducted in these states. The majority surveyed topics in general medicine and surgery. Other subjects covered were cardiovascular disease, poliomyelitis, radiology, tumors and venereal diseases. In most instances the instruction was both didactic and clinical. The facilities of hospitals, clinics and medical schools were used. For this type of instruction a small registration fee was charged. The attendance numbered 17,914.

TABLE 28.—*Courses Offered and Attendance*

	1945-1946			1946-1947		
	Total Courses	Number Reporting Attendance	Attendance	Total Courses	Number Reporting Attendance	Attendance
Short review courses (five days or less)	154	128	4,140	239	205	16,274
Courses of less than a year and more than 5 days	1,070	1,043	19,991	1,291	1,137	23,062
Clinical conferences, graduate assemblies, study and chautauqua courses	52	52	21,824	21	21	20,475
Totals	1,276	1,223	45,955	1,551	1,363	59,811

In seven states (Arkansas, Massachusetts, Michigan, Nebraska, Oklahoma, Tennessee and Wisconsin) identical courses were offered in various centers throughout the state, ranging from three to twenty-five centers. Contributing agencies were medical schools, state medical societies, state health departments and private agencies. Instruction was both clinical and didactic. Afternoons and evenings were most commonly employed by the instructors in presenting their subject. Last year this type of continuation training was offered in general medicine, cancer, gynecology, industrial health and psychiatry. No fee was larger than $10. The reported attendance was 2,561.

Summary.—In 33 states and the District of Columbia some form of continuation study for practicing physicians was provided during 1946-1947. Table 28 summarizes the recorded enrolment for the year 1946-1947, with comparative figures for the previous year. The popularity of this type of training is evidenced in the total figure (59,811), which represents the greatest number of physicians to seek such opportunities in a single year. In 1944-1945 the attendance totaled 18,206, and in 1945-1946 it was 45,955.

The institutions of the country are to be commended for the expansion of their facilities in order to provide this form of continuation study for physicians.

APPROVED INTERNSHIPS

Council on Medical Education and Hospitals of the American Medical Association

535 North Dearborn Street, Chicago 10

Revised to Aug. 16, 1947

HOSPITALS, 764. INTERNSHIPS, 8,539

The following general hospitals, investigated and approved by the Council on Medical Education and Hospitals, are considered in position to furnish acceptable intern training in accordance with standards adopted by the American Medical Association. Three types of internships are approved by the Council—rotating, mixed and straight:

1. A rotating internship is defined as one which provides supervised experience in internal medicine, surgery, pediatrics, obstetrics and their related subspecialties, together with experience in laboratory and radiologic diagnosis. 2. A mixed internship is defined as one which provides supervised experience in two or more, but not in all, of the clinical divisions named. 3. A straight internship is defined as one which provides supervised experience in a single department, although it may include limited opportunity for work in a related subspecialty. Straight internships are now approved in internal medicine, surgery, pediatrics, obstetrics (with or without gynecology) and pathology.

The hospitals approved for intern training are likewise accredited for general residencies which represent general house staff assignments following the internship. The plus (✚) sign indicates additional approval for residencies in specialties, as shown in the Council's list of Approved Residencies and Fellowships for Veteran and Civilian Physicians. Hospitals have now returned to the regular internships of 12 months duration or longer, appointments beginning as a general rule on July 1.

United States Army.

Letterman General Hospital ✚	San Francisco	Percy Jones General Hospital ✚	Battle Creek, Mich.
Fitzsimons General Hospital ✚	Denver	William Beaumont General Hospital ✚	El Paso, Texas
Walter Reed General Hospital ✚	Washington, D. C.	Brooke General Hospital ✚	San Antonio, Texas
Oliver General Hospital ✚	Augusta, Ga.	Madigan General Hospital ✚	Fort Lewis, Wash.

United States Navy.—Address applications to Surgeon General, Bureau of Medicine and Surgery, Washington, D. C.

U. S. Naval Hospital ✚	Long Beach, Calif.	U. S. Naval Hospital ✚ (National Naval Medical Center)	Bethesda, Md.	U. S. Naval Hospital ✚	Newport, R. I.
U. S. Naval Hospital	Mare Island, Calif.	U. S. Naval Hospital ✚	Chelsea, Mass.	U. S. Naval Hospital	Charleston, S. C.
U. S. Naval Hospital ✚	Oakland, Calif.	U. S. Naval Hospital ✚	Brooklyn	U. S. Naval Hospital	Memphis, Tenn.
U. S. Naval Hospital ✚	San Diego, Calif.	U. S. Naval Hospital ✚	St. Albans, N. Y.	U. S. Naval Hospital	Corpus Christi, Texas
U. S. Naval Hospital ✚	Jacksonville, Fla.	U. S. Naval Hospital ✚	Philadelphia	U. S. Naval Hospital	Houston, Texas
U. S. Naval Hospital ✚	Pensacola, Fla.			U. S. Naval Hospital ✚	Portsmouth, Va.
U. S. Naval Hospital ✚	Great Lakes, Ill.			U. S. Naval Hospital	Bremerton, Wash.
				U. S. Naval Hospital	Aiea Heights, Hawaii

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
ALABAMA													
Jefferson and Hillman Hospitals ✚[1]	Birmingham	County	705	20,281	60	100	R	30	(4)	Req	30	$ 15	July
Norwood Hospital ✚[1]	Birmingham	Church	207	6,855	95	100	R	6	No	Req	48	75	July
South Highlands Infirmary	Birmingham	Corp	165	5,636	25	100	M	2	No	Req	21	100	July
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company ✚	Fairfield	NPAssn	315	6,908	100	..	R	12	No	Req	41	50	July
City Hospital ✚	Mobile	CyCo	308	7,060	75	75	R	6	No	Req	23	75	June
ARIZONA													
Good Samaritan Hospital [1]	Phoenix	Church	242	7,731	..	20	R	5	No	None	28	50	July
St. Joseph's Hospital ✚	Phoenix	Church	232	7,144	10	95	R	6	No	None	46	40	July
St. Monica's Hospital ✚	Phoenix	Church	230	5,808	..	..	R	6	No	Req	32	75	July
ARKANSAS													
Baptist State Hospital ✚[1]	Little Rock	Church	340	9,697	..	100	R	10	No	None	..	50	July
St. Vincent Infirmary ✚	Little Rock	Church	260	8,911	15	100	R	6	No	None	24	50	July
University Hospital ✚[1]	Little Rock	State	230	3,805	100	..	R	12	(5)	Req	50	50	July
CALIFORNIA													
Herrick Hospital ✚[1]	Berkeley	NPAssn	125	4,585	..	..	R	5	No	Req	24	50	July
San Joaquin General Hospital ✚	French Camp	County	577	11,658	100	..	R	5	No	Req	72	89	July
General Hospital of Fresno County ✚[2]	Fresno	County	578	7,483	100	..	R	12	No	Req	27	40(b)	July
Glendale Sanitarium and Hospital [1]	Glendale	Church	275	6,566	20	100	R	6	No	Req	48	130(a)	July
Loma Linda Sanitarium and Hospital ✚[1]	Loma Linda	Church	153	4,117	80	..	R	5	No	Req	45	104(a)	July
Seaside Memorial Hospital ✚[1]	Long Beach	NPAssn	480	15,297	..	..	R	12	No	Req	25	100	JanJuly
California Hospital ✚[1]	Los Angeles	Church	388	13,580	64	100	R	14	(6)	Req	50	50	July
Cedars of Lebanon Hospital ✚[1,3]	Los Angeles	NPAssn	360	14,133	10	100	R	10	No	Req	39	60	July
Hospital of the Good Samaritan ✚[1]	Los Angeles	Church	482	11,200	15	50	R	20	(7)	Req	36	60	July
Los Angeles County Hospital ✚[1,3]	Los Angeles	County	3,624	54,593	100	..	R	120	No	Op	33	60	July
Presbyterian Hospital-Olmsted Memorial ✚[1]	Los Angeles	Church	349	9,935	..	..	R	6	No	None	50	45	July
Queen of Angels Hospital ✚	Los Angeles	Church	450	12,612	..	90	R	14	No	Req	29	50	July
St. Vincent's Hospital ✚	Los Angeles	Church	300	12,739	..	..	R	8	No	None	43	50	July
Santa Fe Coast Lines Hospital ✚	Los Angeles	NPAssn	197	4,919	100	..	R	8	(8)	Req	57	80	July
White Memorial Hospital ✚[1,3]	Los Angeles	Church	226	8,574	54	100	R	15	No	Req	44	89(a)	July
Highland-Alameda County Hospital ✚[1,3]	Oakland	County	511	8,916	100	..	R	24	(9)	Req	59	40(b)	July
Permanente Foundation Hospital ✚[1]	Oakland	NPAssn	330	6,989	75	100	R	14	No	Op	70	75	July
Orange County General Hospital [1]	Orange	County	380	2,978	100	..	R	11	No	Req	32	125	July
Collis P. and Howard Huntington Memorial Hospital ✚	Pasadena	NPAssn	244	8,960	3	100	R	7	(10)	Req	59	55	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
CALIFORNIA—Continued													
Sacramento County Hospital	Sacramento	County	500	8,866	100	..	R	12	No	Req	20	75	July
San Bernardino County Charity Hospital ✦	San Bernardino	County	358	4,060	100	..	R	9	No	Req	50	110	July
Mercy Hospital	San Diego	Church	423	13,221	..	..	R	8	No	None	18	55	July
San Diego County General Hospital ✦[3]	San Diego	County	782	7,081	100	..	R	15	No	Req	36	100	July
Children's Hospital ✦[1]	San Francisco	NPAssn	285	7,010	16	100	R	10	No	Req	57	35	July
Franklin Hospital ✦[1]	San Francisco	NPAssn	272	6,636	10	100	R	10	No	Op	33	35	July
French Hospital ✦[1]	San Francisco	NPAssn	243	4,706	..	..	R	7	No	Req	27	35(b)	July
Mary's Help Hospital ✦[1]	San Francisco	Church	233	6,428	7	100	R	5	No	Req	39	100	July
Mount Zion Hospital ✦[1]	San Francisco	NPAssn	193	5,362	10	100	R	8	No	Req	64	50	July
St. Joseph's Hospital [1]	San Francisco	Church	280	7,418	10	75	R	7	No	None	36	50	July
St. Luke's Hospital ✦[1]	San Francisco	Church	225	6,280	10	50	R	6	No	Req	38	40(b)	July
St. Mary's Hospital ✦	San Francisco	Church	425	10,278	..	..	R	10	No	Req	34	50	July
San Francisco Hospital ✦[1,3]	San Francisco	CyCo	1,396	17,900	100	..	R	52	(11)	Req	27	100(a)	July
Southern Pacific General Hospital ✦	San Francisco	NPAssn	450	7,152	100	..	R	16	(12)	Req	28	60	July
Stanford University Hospitals ✦[1]	San Francisco	NPAssn	409	10,127	43	100	S	16	No	Req	44	25	July
United States Marine Hospital ✦[3]	San Francisco	USPHS	589	8,225	100	..	R	13	(13)	Req	69	163	July
University of California Hospital ✦[1]	San Francisco	State	309	7,518	59	41	S	22	(14)	Req	69	25	July
Santa Clara County Hospital ✦[3]	San Jose	County	466	5,737	100	..	R	10	No	Req	31	50(b)	July
St. Francis Hospital	Santa Barbara	Church	108	3,255	..	..	R	3	No	None	33	100	July
Santa Barbara Cottage Hospital ✦[1]	Santa Barbara	NPAssn	210	5,609	..	..	R	6	No	None	51	50	July
Santa Barbara General Hospital	Santa Barbara	County	251	1,229	..	100	R	5	No	None	43	50	July
St. John's Hospital ✦	Santa Monica	Church	153	4,746	..	..	R	4	No	None	30	25	July
Santa Monica Hospital [3]	Santa Monica	Church	220	7,695	55	100	R	10	(15)	Req	57	50	July
COLORADO													
Colorado General Hospital ✦[1]	Denver	State	266	3,696	100	..	R	16	(16)	Op	75	20	July
Denver General Hospital ✦	Denver	CyCo	650	9,562	100	..	R	18	No	Op	34	30	July
Mercy Hospital [1]	Denver	Church	280	9,108	10	25	R	6	No	Req	38	50	July
Porter Sanitarium and Hospital [1]	Denver	Church	153	4,686	24	97	R	6	(17)	Req	34	55	July
Presbyterian Hospital ✦	Denver	Church	225	6,765	..	..	R	5	No	Req	57	32.50	July
St. Anthony Hospital	Denver	Church	240	7,201	4	..	R	3	No	None	27	50	July
St. Joseph's Hospital	Denver	Church	349	9,985	..	..	R	6	No	None	27	50	July
St. Luke's Hospital ✦	Denver	Church	280	8,175	..	95	R	8	No	Op	36	25	July
Corwin Hospital ✦[1]	Pueblo	NPAssn	227	4,976	..	100	R	6	No	Req	52	50	July
CONNECTICUT													
Bridgeport Hospital ✦[1]	Bridgeport	NPAssn	460	11,993	14	..	R	14	No	None	36	100	July
St. Vincent's Hospital	Bridgeport	Church	422	11,044	9	..	R	10	No	None	15	100	July
Danbury Hospital	Danbury	NPAssn	220	4,881	25	100	R	4	No	None	24	100	July
Hartford Hospital ✦[1,3]	Hartford	NPAssn	936	22,825	25	100	R	24	No	Op	43	10	July
J. J. McCook Memorial Hospital ✦	Hartford	City	302	3,950	100	..	R	12	No	Req	31	50	July
St. Francis Hospital ✦	Hartford	Church	606	15,592	18	100	R	12	No	Req	31	35	July
Meriden Hospital [1]	Meriden	NPAssn	176	4,276	11	89	R	6	(18)	Req	30	100	July
Middlesex Hospital	Middletown	NPAssn	173	4,416	17	..	R	6	(19)	None	28	100	July
New Britain General Hospital ✦[1]	New Britain	NPAssn	258	7,158	12	..	R	8	No	None	29	50	July
Grace-New Haven Community Hospital													
Grace Unit ✦	New Haven	NPAssn	270	6,214	35	62	R	8	No	Req	29	25	July
New Haven Unit ✦[1,3]	New Haven	NPAssn	592	10,794	52	48	S	30	No	Req	51	No	July
Hospital of St. Raphael ✦	New Haven	Church	300	9,028	17	40	R	14	No	Req	24	50	July
Lawrence and Memorial Assoc. Hospitals ✦[1]	New London	NPAssn	330	5,882	30	..	R	4	No	None	24	105	July
Norwalk General Hospital	Norwalk	NPAssn	255	7,164	8	20	R	6	No	Req	33	137.50	July
William W. Backus Hospital	Norwich	NPAssn	180	4,218	15	..	R	2	No	Req	34	125	July
Stamford Hospital	Stamford	NPAssn	324	6,257	15	100	R	9	No	Req	35	100	July
St. Mary's Hospital [1,3]	Waterbury	Church	384	8,749	12	100	R	8	No	Req	31	75	July
Waterbury Hospital ✦[1,3]	Waterbury	NPAssn	370	9,860	12	100	R	8	No	Req	39	75	July-Oct
DELAWARE													
Delaware Hospital ✦[3]	Wilmington	NPAssn	432	10,882	19	100	R	12	No	Req	51	100	July
Memorial Hospital ✦[1]	Wilmington	NPAssn	258	5,222	..	..	R	6	No	Req	52	100	July
St. Francis Hospital	Wilmington	Church	137	2,744	..	100	R	3	No	Req	26	125	July
Wilmington General Hospital [3]	Wilmington	NPAssn	224	3,953	25	100	R	7	No	Req	37	125	July
DISTRICT OF COLUMBIA													
Central Dispensary and Emergency Hosp ✦[3]	Washington	NPAssn	325	7,930	30	90	R	14	(20)	Req	46	25	July
Doctors Hospital ✦	Washington	Corp	305	8,487	10	100	R	8	(21)	None	65	50	July
Freedmen's Hospital ✦[1,3]	Washington	USPHS	552	7,398	56	100	R	16	No	Req	26	50	July
Gallinger Municipal Hospital ✦[1,3]	Washington	City	1,543	17,636	100	..	R	32	No	Op	44	50	July
Garfield Memorial Hospital ✦[1,3]	Washington	NPAssn	467	14,125	..	60	R	12	No	Req	56	15(b)	July
Georgetown University Hospital ✦[3]	Washington	NPAssn	301	6,930	47	35	R	13	(22)	Req	40	60	July
George Washington University Hospital ✦	Washington	NPAssn	112	2,886	6	100	R	5	No	Req	48	..	July
Providence Hospital ✦[1,3]	Washington	Church	382	11,027	7	100	R	13	No	Req	40	50	July
St. Elizabeths Hospital ✦[1,3]	Washington	Fed	7,334	1,561	100	..	R	12	(20)	None	63	183.33	July
Sibley Memorial Hospital ✦[1]	Washington	Church	356	10,854	2	..	R	9	No	Req	68	50	July
Washington Sanit. and Hosp., Takoma Pk.[1]	Washington	Church	217	3,586	60	50	R	4	No	Req	29	85	July
FLORIDA													
Duval County Hospital ✦	Jacksonville	County	240	3,520	100	..	R	10	No	Req	51	15(b)	July
St. Luke's Hospital ✦	Jacksonville	NPAssn	210	7,006	4	15	R	5	No	None	..	65(b)	July
St. Vincent's Hospital ✦	Jacksonville	Church	275	9,269	3	..	R	6	No	None	37	50	July
James M. Jackson Memorial Hospital ✦[3]	Miami	City	660	16,445	40	..	R	18	No	Req	31	34.50	July
Orange Memorial Hospital [1]	Orlando	NPAssn	263	5,331	7	100	R	6	No	None	25	75	July
Tampa Municipal Hospital	Tampa	City	336	10,496	..	..	R	4	No	Req	17	50	July
GEORGIA													
Crawford W. Long Memorial Hospital ✦[1]	Atlanta	NPAssn	450	12,695	2	100	R	16	No	None	..	50	July
Georgia Baptist Hospital ✦[1]	Atlanta	Church	214	7,559	17	100	R	7	No	None	17	35(b)	July
Grady Memorial Hospital ✦[1,3]	Atlanta	Counties	750	15,661	100	..	S	29	No	Req	39	10	July
Piedmont Hospital ✦[1]	Atlanta	NPAssn	150	4,461	..	..	R	5	No	None	45	35(b)	July
St. Joseph's Infirmary ✦	Atlanta	Church	164	5,109	65	100	R	3	No	Req	30	100	July
University Hospital ✦[1]	Augusta	City	545	11,416	32	100	R	16	No	Req	30	20	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
GEORGIA—Continued													
Columbus City Hospital [1]	Columbus	City	339	8,257	22	100	R	8	No	Req	15	75	July
Emory University Hospital [+]	Emory University	NPAssn	310	9,296	12	100	S	10	No	Req	39	25(b)	July
Macon Hospital	Macon	CyCo	287	8,180	30	100	R	8	No	Req	15	50	July
ILLINOIS													
Alexian Brothers Hospital [+](e)	Chicago	Church	275	4,427	..	100	R	7	(23)	None	45	50	July
American Hospital [+1]	Chicago	NPAssn	185	6,650	32	85	R	4	No	Op	31	25	July
Augustana Hospital [+]	Chicago	Church	305	7,248	6	75	R	10	No	Req	30	25	July
Belmont Community Hospital	Chicago	NPAssn	133	4,152	..	..	R	4	No	None	16	100	July
Chicago Memorial Hospital [+]	Chicago	NPAssn	112	2,668	12	100	R	5	No	Req	61	150	July
Columbus Hospital	Chicago	Church	150	3,862	15	100	R	5	(24)	None	54	75	July
Cook County Hospital [+1]	Chicago	County	3,661	64,850	100	..	R	112	No	Req	21	13	July
Edgewater Hospital [+]	Chicago	NPAssn	163	6,163	..	100	R	8	No	None	40	75(b)	Jan-Oct
Englewood Hospital	Chicago	NPAssn	189	6,087	2	20	R	6	No	None	24	100	Varies
Evangelical Hospital [1]	Chicago	Church	245	7,460	..	..	R	6	No	None	21	150	July
Garfield Park Community Hospital	Chicago	NPAssn	182	5,670	..	100	R	6	No	None	..	75	July
Grant Hospital [+1]	Chicago	NPAssn	288	7,523	3	100	R	10	No	Req	23	50	July
Henrotin Hospital [+1]	Chicago	NPAssn	127	3,214	48	100	R	4	No	Req	51	75	July
Holy Cross Hospital	Chicago	Church	161	4,507	..	..	R	6	No	None	28	100	July
Hospital of St. Anthony de Padua [1]	Chicago	Church	242	6,774	3	100	R	9	No	None	25	100	July
Illinois Central Hospital [1]	Chicago	NPAssn	290	5,532	50	..	R	9	No	Req	37	82.50	July
Illinois Masonic Hospital [+1]	Chicago	NPAssn	186	5,579	..	100	R	6	No	Req	31	50	July
Jackson Park Hospital [1]	Chicago	Corp	137	4,521	..	100	R	6	No	None	27	150	Varies
Loretto Hospital [1]	Chicago	Church	167	4,329	..	..	R	6	No	None	59	100(b)	July
Lutheran Deaconess Home and Hospital [+]	Chicago	Church	235	7,221	15	..	R	7	No	None	23	75	July
Mercy Hospital-Loyola University Clinics [+1]	Chicago	Church	400	8,267	10	80	R	12	No	Req	44	25	July
Michael Reese Hospital [+1]	Chicago	NPAssn	718	14,830	21	..	R	38	(25)	Op	66	15	July
Mother Cabrini Memorial Hospital	Chicago	Church	152	4,349	..	100	R	4	No	None	24	150	July
Mount Sinai Hospital [+1]	Chicago	NPAssn	277	7,320	14	100	R	13	No	Op	40	15	July
Norwegian American Hospital [+1]	Chicago	NPAssn	214	6,202	..	..	R	6	No	None	33	100	July
Passavant Memorial Hospital [+1]	Chicago	NPAssn	255	5,800	..	100	R	12	(26)	Req	69	No	Quarterly
Presbyterian Hospital [+1]	Chicago	Church	481	11,928	..	100	R	25	No	Op	64	No	July
Provident Hospital [+1]	Chicago	NPAssn	196	5,140	..	100	R	9	(27)	Req	57	25	July
Ravenswood Hospital [+1]	Chicago	NPAssn	205	5,278	..	..	R	8	No	None	31	100(b)	July
Research and Educational Hospitals [+1,3]	Chicago	State	513	5,945	100	..	R	24	No	Req	90	No	July
Roseland Community Hospital	Chicago	NPAssn	125	3,603	..	..	R	4	No	None	28	150	July
St. Anne's Hospital [+]	Chicago	Church	350	8,325	..	..	R	11	No	None	36	100(b)	July
St. Bernard's Hospital	Chicago	Church	231	7,786	..	..	R	8	No	None	33	100	June
St. Elizabeth's Hospital [+1]	Chicago	Church	345	8,676	..	..	R	8	No	None	31	75	July
St. Joseph Hospital [+1]	Chicago	Church	300	7,085	..	100	R	6	No	Op	43	50	July
St. Luke's Hospital [+1]	Chicago	NPAssn	585	14,303	15	100	R	40	No	Req	59	No	July
St. Mary of Nazareth Hospital [+]	Chicago	Church	323	11,272	9	80	R	8	No	None	42	75	July
Swedish Covenant Hospital [+1]	Chicago	Church	258	6,337	..	100	R	8	No	None	21	75	July-Sept
United States Marine Hospital [+3]	Chicago	USPHS	306	2,556	100	..	R	7	(28)	Req	70	142	Varies
University Hospital [1]	Chicago	NPAssn	100	3,510	..	100	M	4	No	None	29	15	Varies
University of Chicago Clinics [+1,3]	Chicago	NPAssn	660	11,779	..	100	R	48	No	Req	83	No	July
Walther Memorial Hospital	Chicago	Church	209	5,741	..	..	R	6	No	None	34	75	July
Wesley Memorial Hospital [+1]	Chicago	Church	579	12,541	9	100	R	30	No	None	62	No	Jan-July
Women and Children's Hospital [+2]	Chicago	NPAssn	145	4,963	21	100	R	6	No	Req	56	50-75	July
Woodlawn Hospital [+1]	Chicago	NPAssn	157	3,429	..	..	R	4	No	None	58	50	July
St. Mary's Hospital [1]	East St. Louis	Church	301	6,154	..	100	R	6	No	None	..	150	July
Memorial Hospital [1]	Elmhurst	NPAssn	152	4,847	..	..	R	3	No	None	19	50	Jan-July
Evanston Hospital [+]	Evanston	NPAssn	292	8,996	9	100	R	18	(29)	Req	86	No	Jan-July
St. Francis Hospital [+]	Evanston	Church	420	9,999	2	100	R	11	No	None	35	50	July
Little Company of Mary Hospital [+]	Evergreen Park	Church	265	8,624	..	100	R	6	No	None	25	100	July
St. Joseph's Hospital	Joliet	Church	345	8,243	..	100	R	6	No	None	34	100	Varies
Moline Public Hospital [1]	Moline	City	246	6,169	..	100	R	3	No	None	17	100(b)	July
Oak Park Hospital	Oak Park	Church	190	4,462	..	..	R	5	No	None	18	..	Varies
West Suburban Hospital [+]	Oak Park	NPAssn	412	10,468	..	100	R	12	No	Req	41	50	July
Methodist Hospital of Central Illinois [+]	Peoria	Church	240	6,441	..	100	R	8	No	None	26	100	July
St. Francis Hospital [+1,3]	Peoria	Church	593	12,883	25	100	R	10	No	Req	35	75	July
St. Mary's Hospital	Quincy	Church	205	5,392	25	65	R	3	No	None	..	..	July
Memorial Hospital	Springfield	NPAssn	300	6,153	..	..	R	8	No	None	28	50	July
INDIANA													
St. Catherine Hospital [1]	East Chicago	Church	324	6,872	..	..	R	7	No	None	21	100(b)	July
Protestant Deaconess Hospital	Evansville	Church	275	8,001	..	..	R	3	No	None	16	75	Varies
St. Mary's Hospital	Evansville	Church	196	4,633	..	..	R	4	No	None	16	25	Varies
Lutheran Hospital	Fort Wayne	Church	250	5,635	..	95	R	4	No	None	20	75(b)	July
St. Joseph Hospital [+]	Fort Wayne	Church	350	7,548	5	..	R	6	No	None	31	50	July
Methodist Hospital [1]	Gary	Church	275	6,560	..	100	R	6	No	None	40	100	July
St. Mary's Mercy Hospital [+]	Gary	Church	292	6,825	..	..	R	6	No	None	25	100(b)	July
St. Margaret Hospital [+]	Hammond	Church	286	9,158	..	100	R	10	No	None	24	125	Jan-July
Indianapolis City Hospital [+1,3]	Indianapolis	City	744	10,565	85	100	R	32	(30)	Req	41	60	July
Indiana University Medical Center [+1,3]	Indianapolis	State	646	9,740	66	100	R	32	No	Op	58	12.50	July
Methodist Hospital [+1]	Indianapolis	Church	702	20,765	10	100	R	24	No	Op	33	125	July
St. Vincent's Hospital [+1]	Indianapolis	Church	400	11,140	..	100	R	14	No	None	26	125	July
St. Elizabeth Hospital [+]	La Fayette	Church	335	7,492	..	95	R	8	No	None	22	100	July
Ball Memorial Hospital [+1]	Muncie	NPAssn	247	7,425	..	100	R	8	No	None	27	75	July
Memorial Hospital [+]	South Bend	NPAssn	265	9,229	5	100	R	5	No	Op	34	75(b)	July
St. Joseph Hospital [1]	South Bend	Church	223	6,080	25	100	R	4	No	None	31	75(b)	July
St. Anthony Hospital	Terre Haute	Church	214	4,981	3	..	R	2	No	None	..	75	July
IOWA													
Mercy Hospital	Cedar Rapids	Church	190	7,615	..	..	R	2	No	None	22	..	Varies
Jennie Edmundson Memorial Hospital [1]	Council Bluffs	NPAssn	157	5,130	..	100	R	3	No	None	19	75	Varies
Mercy Hospital [1]	Council Bluffs	Church	172	4,534	..	..	R	4	(31)	None	21	75	July
Broadlawns Polk County Hospital [1]	Des Moines	County	167	4,035	100	..	R	10	No	Req	41	75	July
Iowa Lutheran Hospital [1]	Des Moines	Church	155	4,616	..	100	R	3	No	None	19	75	July
Iowa Methodist Hospital [+1]	Des Moines	Church	330	10,271	..	..	R	12	No	None	74	75	July
Mercy Hospital [+1]	Des Moines	Church	220	7,546	..	..	R	5	No	None	40	75	July
University Hospitals [+1,3]	Iowa City	State	954	18,496	100	..	R	20	No	Req	56	25	July
St. Joseph Mercy Hospital	Sioux City	Church	300	9,220	..	100	R	5	No	Req	..	..	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
KANSAS													
Bethany Hospital [1]	Kansas City	Church	180	5,005	..	..	R	6	No	None	37	100	Varies
Providence Hospital [1]	Kansas City	Church	164	3,532	..	100	R	3	No	None	50	50(b)	July
St. Margaret's Hospital [+]	Kansas City	Church	228	4,861	6	100	R	6	No	None	50	40	July
University of Kansas Hospitals [+1,3]	Kansas City	State	393	8,181	58	..	R	12	No	Op	59	25	July
St. Francis Hospital [+]	Wichita	Church	450	13,373	..	..	R	10	No	None	43	75	April,July
Wesley Hospital [+1]	Wichita	Church	379	8,968	..	..	R	7	(32)	None	29	75	July
Wichita Hospital [1]	Wichita	Church	165	3,644	..	..	R	4	(33)	None	19	100	July
KENTUCKY													
St. Elizabeth Hospital [1]	Covington	Church	367	9,208	5	..	R	10	No	None	..	50	July
Good Samaritan Hospital	Lexington	Church	315	8,038	20	100	R	6	No	None	24	50	July
St. Joseph Hospital [+]	Lexington	Church	298	9,568	25	91	R	4	No	None	31	75	July
Kentucky Baptist Hospital	Louisville	Church	195	5,375	..	..	R	5	No	None	24	35	July
Louisville General Hospital [+1,3]	Louisville	CyCo	637	12,006	100	..	R	28	(34)	Req	38	20	July
Norton Memorial Infirmary [+]	Louisville	NPAssn	185	5,481	5	90	R	6	(35)	Op	26	50	July
St. Anthony Hospital	Louisville	Church	176	5,041	..	98	R	3	(35)	None	30	75	July
St. Joseph Infirmary [+]	Louisville	Church	325	11,171	6	..	R	11	No	Req	25	50	July
SS. Mary and Elizabeth Hospital	Louisville	Church	225	6,556	10	..	R	4	No	None	25	75	July
LOUISIANA													
Charity Hospital of Louisiana [+1,3]	New Orleans	State	3,496	41,449	100	..	R	120	No	Req	49	10	July
Flint Goodridge Hosp. of Dillard University	New Orleans	NPAssn	117	2,927	11	..	R	4	No	Req	29	..	Varies
Hotel Dieu, Sisters' Hospital [+1]	New Orleans	Church	395	10,969	3	..	R	10	No	None	34	50	July
Mercy Hospital-Soniat Memorial	New Orleans	Church	157	4,976	..	..	R	4	No	None	33	..	July
Southern Baptist Hospital [+]	New Orleans	Church	444	16,279	12	100	R	16	No	None	25	30	July
Touro Infirmary [+]	New Orleans	NPAssn	424	15,383	..	100	R	19	No	Req	55	10	July
United States Marine Hospital [+1,3]	New Orleans	USPHS	570	6,482	100	..	R	12	No	Req	76	87.14	July
Highland Sanitarium [1]	Shreveport	Part	120	3,728	..	100	R	4	No	None	36	75	July
North Louisiana Sanitarium [1]	Shreveport	Corp	147	5,173	..	100	R	2	(36)	Req	21	75	July
T. E. Schumpert Memorial Sanitarium	Shreveport	Church	133	4,747	..	..	R	3	No	None	..	150	July
Shreveport Charity Hospital [+1]	Shreveport	State	701	11,181	100	..	R	26	No	Op	47	20	July
Tri-State Hospital	Shreveport	Corp	140	5,517	..	..	R	4	No	None	33	50(b)	July
MAINE													
Eastern Maine General Hospital [1]	Bangor	NPAssn	243	6,496	35	98	R	6	No	Req	20	50	July
Central Maine General Hospital [+1]	Lewiston	NPAssn	264	4,905	..	100	R	6	No	Req	43	25	July
St. Mary's General Hospital	Lewiston	Church	180	3,541	20	75	R	3	No	Req	38	70	July
Maine General Hospital [+]	Portland	NPAssn	385	8,176	60	15	R	6	No	Req	29	25	July
MARYLAND													
Baltimore City Hospitals [+1,3]	Baltimore	City	2,105	7,188	100	..	R&S	40	No	Req	55	15	July
Bon Secours Hospital [+]	Baltimore	Church	180	4,239	..	100	R	4	No	Req	73	25	July
Church Home and Hospital [+1]	Baltimore	Church	193	4,907	14	100	R&S	7	No	Req	42	25	July
Franklin Square Hospital [+1]	Baltimore	NPAssn	274	5,447	20	..	R	6	No	Req	30	50(b)	July
Hospital for Women [+1]	Baltimore	NPAssn	162	3,981	26	100	R	5	No	Req	40	25	July
Johns Hopkins Hospital [+1,3]	Baltimore	NPAssn	1,065	18,235	61	100	S	80	No	Req	65	No	July
Maryland General Hospital [+1]	Baltimore	Church	268	5,738	18	100	R	8	No	Req	19	25	July
Mercy Hospital [+]	Baltimore	Church	337	7,623	40	100	R	14	No	Req	26	25	July
Provident Hospital and Free Dispensary [+1]	Baltimore	NPAssn	145	2,634	..	..	R	7	No	Req	15	15(b)	July
St. Agnes' Hospital [+1]	Baltimore	Church	277	6,750	..	100	R	6	No	Req	25	30	July
St. Joseph's Hospital [+1]	Baltimore	Church	290	6,938	42	100	R	8	No	Req	40	25	July
Sinai Hospital [+1,3]	Baltimore	NPAssn	368	7,654	26	100	R&S	17	No	Req	60	25	July
South Baltimore General Hospital [+]	Baltimore	NPAssn	174	4,231	46	100	R	6	No	Req	31	50	July
Union Memorial Hospital [+]	Baltimore	NPAssn	377	7,914	19	..	R	17	No	Op	17	No	July
United States Marine Hospital [+3]	Baltimore	USPHS	500	7,954	100	..	R	12	(37)	Req	67	162.83	July
University Hospital [+1,3]	Baltimore	State	505	9,834	46	100	R	24	No	Req	58	No	July
West Baltimore General Hospital [+1]	Baltimore	NPAssn	202	4,929	14	100	R	8	No	Op	44	50	July
Suburban Hospital [+]	Bethesda	NPAssn	124	3,287	15	..	R	3	No	Req	59	25	Varies
Washington County Hospital	Hagerstown	NPAssn	206	5,932	..	..	R	6	No	None	21	35	Varies
MASSACHUSETTS													
Beverly Hospital [+]	Beverly	NPAssn	207	4,649	30	70	R	4	No	Req	80	No	July
Beth Israel Hospital [+]	Boston	NPAssn	215	6,020	35	..	S	13	(38)	Req	58	No	July
Boston City Hospital [+1,3]	Boston	City	2,537	36,888	100	..	S	125	No	Req	19	No	July
Carney Hospital [+]	Boston	Church	258	5,713	24	90	S	9	No	Req	39	No	July
Children's Hospital [+1,3]	Boston	NPAssn	353	7,693	72	..	S	26	(39)	Req	76	No	July
Faulkner Hospital [+]	Boston	NPAssn	161	3,222	..	100	R	3	No	None	50	No	July
Massachusetts General Hospital [+1,3]	Boston	NPAssn	449	7,227	100	..	S	31	No	Req	53	No	July
Massachusetts Memorial Hospitals [+1,3]	Boston	NPAssn	450	7,864	..	100	R&S	19	No	Req	70	No	July
New England Hospital for Women and Children [+2]	Boston	NPAssn	260	4,536	39	100	R	8	No	Req	35	No	Nov
Peter Bent Brigham Hospital [+3]	Boston	NPAssn	250	4,482	70	10	S	17	No	Req	74	No	July
St. Elizabeth's Hospital [+1]	Boston	Church	316	6,269	11	30	R	8	No	Req	21	25(b)	July
United States Marine Hospital [+3]	Boston	USPHS	463	5,717	100	..	M	6	No	Req	31	87.08	July
Brockton Hospital	Brockton	NPAssn	151	2,759	27	..	R	3	No	Req	31	75	July
Cambridge City Hospital [+]	Cambridge	City	400	6,539	56	..	R	12	No	Req	34	10	July
Mount Auburn Hospital [+1]	Cambridge	NPAssn	272	6,509	19	50	R	6	No	Req	45	No	July
Chelsea Memorial Hospital	Chelsea	NPAssn	123	2,523	11	100	R	2	No	Req	..	50	July
Union Hospital [1]	Fall River	NPAssn	201	4,878	15	90	R	4	No	Req	20	150	Varies
Burbank Hospital [1]	Fitchburg	City	266	4,727	30	..	R	4	No	Req	35	50	Varies
Holyoke Hospital	Holyoke	NPAssn	164	3,630	8	..	R	3	No	Req	..	50	July
Providence Hospital	Holyoke	Church	200	4,226	2	50	R	4	No	None	17	50	July
Lawrence General Hospital	Lawrence	NPAssn	233	5,300	15	..	R	3	No	Req	29	50	Varies
Lowell General Hospital	Lowell	NPAssn	212	3,867	19	..	R	3	No	Req	21	25	April,July
St. John's Hospital	Lowell	Church	235	5,043	35	100	R	4	No	Req	31	100	July
St. Joseph's Hospital	Lowell	Church	170	4,190	21	..	R	3	No	Req	19	25	June
Lynn Hospital	Lynn	NPAssn	316	7,172	27	..	R	6	No	Req	26	..	July
St. Luke's Hospital	New Bedford	NPAssn	339	6,472	29	..	R	6	No	Req	16	25	July
Newton-Wellesley Hospital [+1]	Newton	NPAssn	286	5,008	23	45	R	6	No	Req	34	No	June

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
MASSACHUSETTS—Continued													
House of Mercy Hospital	Pittsfield	NPAssn	220	5,080	8	..	R	2	No	Req	..	50	July
St. Luke's Hospital	Pittsfield	Church	200	3,221	..	..	R	2	No	None	38	100	Varies
Quincy City Hospital ✚[1]	Quincy	City	384	7,863	12	100	R	9	No	Req	44	50	July
Salem Hospital ✚[2]	Salem	NPAssn	285	5,788	18	..	R	6	No	Req	32	30	July
Mercy Hospital	Springfield	Church	400	10,122	20	95	R	6	No	None	27	25	July
Springfield Hospital [1]	Springfield	NPAssn	285	7,439	16	20	R	12	(40)	Req	46	No	July
Wesson Memorial Hospital [1]	Springfield	NPAssn	112	3,206	9	75	R	5	(41)	None	26	50	Varies
Waltham Hospital	Waltham	NPAssn	185	3,861	13	..	R	4	No	Req	..	25(b)	July
Memorial Hospital ✚[1,3]	Worcester	NPAssn	215	8,962	..	100	R	10	No	Req	33	50	July
St. Vincent Hospital ✚	Worcester	Church	277	6,817	10	80	R	6	No	None	19	50	July
Worcester City Hospital ✚[1,3]	Worcester	City	540	9,489	65	95	R	20	No	Req	25	No	July
Worcester Hahnemann Hospital [1]	Worcester	NPAssn	136	3,707	15	90	R	4	No	None	24	50	July
MICHIGAN													
St. Joseph's Mercy Hospital ✚	Ann Arbor	Church	313	6,954	..	..	R	6	No	Req	46	100	July
University Hospital ✚[1,3]	Ann Arbor	State	934	14,471	100	..	R	27	No	Req	61	20	July
Leila Y. Post Montgomery Hospital ✚	Battle Creek	Church	200	6,749	..	100	R	2	No	Req	31	100	July
Mercy Hospital [1]	Bay City	Church	160	5,455	..	..	R	3	No	None	..	100	July
Charles Godwin Jennings Hospital ✚	Detroit	NPAssn	108	2,658	..	..	R	4	(42)	None	54	125	July
City of Detroit Receiving Hospital ✚[1]	Detroit	City	633	16,816	100	..	R	40	(49)	Req	25	103	July
Evangelical Deaconess Hospital [1]	Detroit	Church	225	6,906	..	..	R	6	No	Req	40	150	July
Grace Hospital ✚[1,3]	Detroit	NPAssn	513	15,194	12	100	R	36	(43)	Req	35	50	July
Harper Hospital ✚[1]	Detroit	NPAssn	685	19,950	3	100	R	36	(44)	Req	33	28(b)	Varies
Henry Ford Hospital ✚[1,3]	Detroit	NPAssn	634	16,430	..	100	R	30	No	Op	57	170(a)	July
Mount Carmel Mercy Hospital ✚	Detroit	Church	575	16,227	6	75	R	12	No	None	25	100	July
Providence Hospital ✚	Detroit	Church	444	12,873	10	10	R	20	(45)	Req	73	125	July
St. Joseph's Mercy Hospital ✚	Detroit	Church	246	7,202	10	31	R	4	No	Req	29	100	July
St. Mary's Hospital ✚	Detroit	Church	350	9,795	3	100	R	12	(46)	Req	59	75	July
United States Marine Hospital ✚[2]	Detroit	USPHS	293	3,892	100	..	R	6	(47)	Req	43	162.81	July
Woman's Hospital ✚[1]	Detroit	NPAssn	352	8,138	..	100	R	6	(48)	Req	60	80	July
Wayne County General Hospital and Infirmary ✚[1]	Eloise	County	6,368	5,205	99	..	R	24	(49)	Req	30	167.50	July
Hurley Hospital ✚	Flint	City	484	13,899	..	..	R	16	No	None	53	50	July
St. Joseph Hospital	Flint	Church	275	7,105	..	..	R	4	No	None	29	..	July
Blodgett Memorial Hospital ✚[1]	Grand Rapids	NPAssn	210	5,039	..	100	R	6	No	Req	54	75	Quarterly
Butterworth Hospital ✚[1]	Grand Rapids	NPAssn	286	9,081	7	100	R	8	No	Req	41	50	July
St. Mary's Hospital ✚	Grand Rapids	Church	321	8,255	4	100	R	7	No	Req	40	100	Varies
Highland Park General Hospital ✚[1]	Highland Park	City	300	8,085	5	100	R	8	No	Req	39	100	July
W. A. Foote Memorial Hospital	Jackson	City	185	5,632	..	..	R	2	No	None	16	100	July
Mercy Hospital [1]	Jackson	Church	150	5,045	..	..	R	3	No	None	16	150	Aug
Borgess Hospital ✚[1]	Kalamazoo	Church	295	6,184	..	..	R	4	No	None	29	100	July
Bronson Methodist Hospital ✚[1]	Kalamazoo	Church	170	5,072	..	..	R	6	No	None	34	100	July
Edward W. Sparrow Hospital [1]	Lansing	NPAssn	253	7,103	2	100	R	7	(50)	None	50	230	July
St. Lawrence Hospital	Lansing	Church	270	6,712	..	..	R	8	(50)	None	45	..	July
Hackley Hospital ✚	Muskegon	NPAssn	174	5,177	..	..	R	4	No	None	31	..	July
Pontiac General Hospital	Pontiac	City	225	7,058	..	..	R	3	No	None	15	165	Varies
Saginaw General Hospital ✚	Saginaw	NPAssn	250	7,041	..	100	R	3	No	Req	33	50	July
St. Mary's Hospital [1]	Saginaw	Church	204	5,791	..	..	R	2	No	None	..	..	July
MINNESOTA													
St. Luke's Hospital ✚	Duluth	NPAssn	270	8,998	..	100	R	9	(51)	Req	78	25	July
St. Mary's Hospital ✚	Duluth	Church	300	9,235	..	100	R	10	(51)	Req	79	25	July
Asbury Hospital [1]	Minneapolis	Church	174	5,338	..	100	R	4	No	None	47	50	Quarterly
Minneapolis General Hospital ✚[1,3]	Minneapolis	City	629	10,111	100	..	R	30	(52)	Req	51	25	July
Northwestern Hospital ✚	Minneapolis	NPAssn	292	7,989	..	..	R	7	No	None	50	50	July
St. Barnabas Hospital ✚	Minneapolis	NPAssn	244	7,251	..	..	R	4	No	None	63	100	July
St. Mary's Hospital ✚[1]	Minneapolis	Church	365	11,883	..	100	R	10	No	None	30	50	July
Swedish Hospital [1]	Minneapolis	NPAssn	372	10,361	..	..	R	4	No	None	41	50	July
University Hospitals ✚[1,3]	Minneapolis	State	475	8,960	100	..	S	28	No	Req	75	No	April
Ancker Hospital ✚[2]	St. Paul	CyCo	905	7,072	100	..	R	24	No	Req	68	30	JanJuly
Bethesda Hospital [1]	St. Paul	Church	200	7,715	..	100	R	5	(53)	Req	36	100	July
Charles T. Miller Hospital ✚	St. Paul	NPAssn	325	8,283	37	100	R	9	(54)	Req	49	50	July
St. Joseph's Hospital [1]	St. Paul	Church	312	10,208	15	..	R	8	No	None	40	60	July
MISSOURI													
St. Louis County Hospital ✚	Clayton	County	248	3,022	98	2	R	6	No	Req	39	30	July
Kansas City General Hospital No. 1 ✚[2]	Kansas City	City	610	9,182	100	..	R	22	(55)	Req	60	25	July
Kansas City General Hospital No. 2 [2]	Kansas City	City	276	3,959	100	..	R	6	No	Req	22	25	July
Menorah Hospital ✚[1]	Kansas City	NPAssn	175	4,353	..	100	R	6	No	None	27	100	July
Research Hospital ✚[1]	Kansas City	NPAssn	251	6,913	..	100	R	8	No	None	56	50	July
St. Joseph Hospital ✚[1]	Kansas City	Church	291	9,788	10	100	R	8	No	None	46	50	July
St. Luke's Hospital ✚[1]	Kansas City	Church	327	8,258	..	..	R	7	No	Req	70	50	July
St. Mary's Hospital ✚[1]	Kansas City	Church	182	6,056	..	..	R	5	No	None	68	50	July
Trinity Lutheran Hospital	Kansas City	Church	150	3,672	..	..	R	4	No	None	45	100	July
Missouri Methodist Hospital	St. Joseph	Church	235	6,287	..	98	R	5	No	None	20	100	July
St. Joseph's Hospital [1]	St. Joseph	Church	150	4,364	8	50	R	2	No	None	22	100	July
Barnes Hospital ✚[1,3]	St. Louis	Church	585	14,207	25	100	S	37	(56)	Req	70	10	July
Christian Hospital	St. Louis	NPAssn	145	3,066	..	..	R	3	No	None	45	40(b)	July
De Paul Hospital ✚	St. Louis	Church	335	8,405	25	100	R	9	No	Req	27	25	July
Evangelical Deaconess Hospital [1]	St. Louis	Church	265	7,331	..	..	R	9	No	None	21	25(b)	July
Homer G. Phillips Hospital ✚[1,3]	St. Louis	City	750	11,709	100	..	R	36	(57)	Req	23	25	July
Jewish Hospital ✚[1]	St. Louis	NPAssn	337	7,963	9	100	R	12	No	Req	33	35	July
Lutheran Hospital	St. Louis	Church	195	5,911	4	100	R	6	No	None	25	40(b)	July
Missouri Baptist Hospital ✚	St. Louis	Church	500	10,763	..	100	R	5	No	None	23	35(b)	July
St. Anthony's Hospital ✚	St. Louis	Church	298	6,737	..	..	R	8	No	None	31	25	July
St. John's Hospital ✚	St. Louis	Church	406	8,391	4	100	R	13	No	Req	30	25	July
St. Louis City Hospital ✚[1,3]	St. Louis	City	1,104	16,516	100	..	R	53	(58)	Req	50	61	July
St. Luke's Hospital ✚[1]	St. Louis	Church	220	4,485	7	100	R	11	(59)	Req	38	25(b)	July
St. Mary's Group of Hospitals ✚[2]	St. Louis	Church	751	14,497	10	100	R	32	(60)	Req	54	15	July
St. Mary's Infirmary	St. Louis	Church	179	3,001	25	100	R	4	No	None	35	10(b)	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
MONTANA													
Murray Hospital	Butte	Corp	120	2,500	..	100	R	4	No	Req	25	108(b)	Quarterly
St. James Hospital [1]	Butte	Church	190	3,846	25	25	R	3	No	Req	..	100	June
Montana Deaconess Hospital [+1]	Great Falls	Church	240	6,031	..	..	R	4	No	None	55	25	July
NEBRASKA													
Bryan Memorial Hospital [1,2]	Lincoln	Church	134	2,953	..	75	R	3	No	None	61	100	Varies
Lincoln General Hospital [+1,2]	Lincoln	NPAssn	223	5,025	..	100	R	5	No	None	72	50	Varies
St. Elizabeth Hospital	Lincoln	Church	250	7,417	..	65	R	4	No	None	24	75	July
Bishop Clarkson Memorial Hospital [+]	Omaha	Church	177	5,477	..	100	R	4	No	Req	40	50	July
Creighton Memorial St. Joseph's Hosp. [+1]	Omaha	Church	518	11,904	..	98	R	14	No	Req	42	25(b)	July
Immanuel Deaconess Institute	Omaha	Church	165	4,128	..	100	R	4	No	None	31	50	April
Nebraska Methodist Hospital [+1]	Omaha	Church	191	5,695	..	100	R	5	No	None	50	40(b)	July
St. Catherine's Hospital	Omaha	Church	201	5,270	10	80	R	4	No	None	22	50	July
University of Nebraska Hospital [+]	Omaha	State	230	2,651	100	..	R	12	No	Req	98	25	July
NEW HAMPSHIRE													
Mary Hitchcock Memorial Hospital [+]	Hanover	NPAssn	196	4,671	32	100	R	9	No	None	85	8.33	July
NEW JERSEY													
Atlantic City Hospital [+]	Atlantic City	NPAssn	300	7,012	47	..	R	8	No	Req	34	50	July
Bayonne Hospital and Dispensary [+1]	Bayonne	NPAssn	280	5,441	46	100	R	6	No	Req	26	75	Quarterly
Cooper Hospital [+]	Camden	NPAssn	447	8,670	55	100	R	12	No	Req	41	15	July
West Jersey Hospital [+]	Camden	NPAssn	341	6,382	34	100	R	8	No	Req	32	25	July
East Orange General Hospital [1]	East Orange	NPAssn	150	3,008	..	100	R	3	No	Req	23	50	July
Alexian Brothers Hospital (e)	Elizabeth	Church	168	2,848	16	..	R	4	(61)	Req	18	..	July
Elizabeth General Hospital and Dispensary [1]	Elizabeth	NPAssn	237	5,174	40	100	R	10	No	Req	19	50	July
St. Elizabeth Hospital [1]	Elizabeth	Church	260	4,396	27	..	R	8	No	Req	20	75	July
Englewood Hospital [1,2]	Englewood	NPAssn	238	6,805	24	..	R	9	No	Req	35	50	July
Hackensack Hospital [+1]	Haskensack	NPAssn	300	9,007	35	20	R	11	No	Req	27	50	July
St. Mary's Hospital [1]	Hoboken	Church	450	6,895	62	..	R	10	No	Req	17	50	July
Christ Hospital [1]	Jersey City	Church	285	5,905	40	..	R	12	No	Req	18	100	July
Jersey City Hospital [+1,2]	Jersey City	City	1,105	21,864	80	100	R	89	(62)	Req	18	25	Varies
St. Francis Hospital [1]	Jersey City	Church	228	4,049	21	..	R	7	(63)	Req	16	65	Jan.June
Monmouth Memorial Hospital [+1,2]	Long Branch	NPAssn	306	6,652	3	..	R	9	No	Op	40	100	July
Mountainside Hospital [+1,2]	Montclair	NPAssn	368	5,834	21	50	R	12	No	Req	32	25	July
All Souls Hospital	Morristown	Church	102	3,025	12	85	R	3	No	Req	17	..	July
Morristown Memorial Hospital [1]	Morristown	NPAssn	158	3,011	27	100	R	4	No	Req	..	100	July
Burlington County Hospital [+]	Mount Holly	NPAssn	145	2,288	35	100	R	4	No	Req	50	50	July
Fitkin Memorial Hospital	Neptune	NPAssn	190	6,480	..	100	R	6	No	Req	62	50(b)	July
Hospital of St. Barnabas and for Women and Children [+1]	Newark	Church	270	6,137	28	20	R	6	No	Req	32	104.65(a)	July
Lutheran Memorial Hospital	Newark	NPAssn	142	2,978	45	..	R	3	No	Req	18	50	Varies
Newark Beth Israel Hospital [+1,2]	Newark	NPAssn	441	10,657	23	100	R	12	No	Req	32	25	July
Newark City Hospital [+1,2]	Newark	City	740	11,761	100	..	R	24	No	None	24	30	July
St. James Hospital [1]	Newark	Church	167	3,247	19	..	R	2	No	Req	19	100	July
St. Michael's Hospital [+]	Newark	Church	420	9,160	..	100	R	8	No	Req	22	75	July
St. Peter's General Hospital	New Brunswick	Church	244	6,758	..	..	R	4	No	Req	..	75	Apr.July
Orange Memorial Hospital	Orange	NPAssn	475	8,724	30	..	R	8	No	Req	30	35	July
St. Mary's Hospital	Orange	Church	166	3,226	..	..	R	3	No	Req	..	75	July
Passaic General Hospital	Passaic	NPAssn	302	6,080	20	15	R	4	No	Req	19	100	July
St. Mary's Hospital [1]	Passaic	Church	240	6,885	25	35	R	4	No	Req	25	50(b)	Varies
Nathan and Miriam Barnert Mem. Hosp. [1]	Paterson	NPAssn	145	3,633	32	10	R	5	No	Req	18	50	July.Oct
Paterson General Hospital [+]	Paterson	NPAssn	456	8,916	28	..	R	10	No	Req	26	50(b)	July
St. Joseph Hospital	Paterson	Church	468	8,124	52	20	R	10	No	Req	24	75	July
Perth Amboy General Hospital	Perth Amboy	NPAssn	225	5,356	..	..	R	5	No	None	46	75	July
Muhlenberg Hospital [3]	Plainfield	NPAssn	330	7,640	18	100	R	8	No	Req	26	50	July
Holy Name Hospital	Teaneck	Church	235	5,231	15	75	R	8	No	Req	37	75	July
Mercer Hospital [1]	Trenton	NPAssn	287	6,917	22	78	R	8	No	Req	39	85	July
St. Francis Hospital [+5]	Trenton	Church	365	9,109	35	100	R	8	No	Req	34	75	July
William McKinley Memorial Hospital [1]	Trenton	NPAssn	156	3,307	20	80	R	4	No	Req	..	100	March
North Hudson Hospital [1,2]	Weehawken	NPAssn	191	3,320	50	100	R	7	(62)	Req	20	100	Varies
NEW YORK													
Albany Hospital [+1,2]	Albany	NPAssn	571	13,482	24	100	S	23	No	Req	60	No	July
Memorial Hospital [1]	Albany	NPAssn	157	3,419	10	100	R	5	No	Op	42	75	Varies
St. Peter's Hospital	Albany	Church	159	4,600	6	..	R	5	(64)	Req	22	100	Varies
Binghamton City Hospital [+1,2]	Binghamton	City	500	9,458	20	80	R	14	No	Req	38	50	July
Beth-El Hospital [+1]	Brooklyn	NPAssn	332	7,028	43	75	R	16	No	Req	32	50	July
Beth Moses Hospital [+1,2]	Brooklyn	NPAssn	215	4,190	24	100	R	14	No	Op	23	75	Jan.July
Brooklyn Hospital [+1]	Brooklyn	NPAssn	374	7,879	47	100	R	12	No	Req	33	No	July
Bushwick Hospital	Brooklyn	NPAssn	125	3,170	..	100	R	6	No	Req	25	75	July
Coney Island Hospital [+1,2]	Brooklyn	City	300	5,050	100	..	R	16	No	Req	16	45	July
Cumberland Hospital [+1,2]	Brooklyn	City	400	6,297	100	..	R	22	No	Req	30	45	July
Greenpoint Hospital [+1,2]	Brooklyn	City	300	5,479	100	..	R	12	No	Req	24	45	July
Israel Zion Hospital [+1,2]	Brooklyn	NPAssn	507	10,677	..	75	R	16	No	Req	27	35	Varies
Jewish Hospital [+1,2]	Brooklyn	NPAssn	660	13,396	27	100	R&S	40	(65)	Req	41	10(b)	July
Kings County Hospital [+1,2]	Brooklyn	City	2,520	57,009	100	..	R&S	110	No	Req	17	45	July
Long Island College Hospital [+1]	Brooklyn	NPAssn	451	8,840	30	..	S	22	(66)	Req	36	No	July
Methodist Hospital [+1]	Brooklyn	Church	542	9,217	41	..	R	10	No	Op	35	No	July
Norwegian Lutheran Deaconesses' Home and Hospital [+1]	Brooklyn	Church	263	5,280	45	..	R	4	No	Req	15	50	July
St. Catherine's Hospital	Brooklyn	Church	344	7,396	30	90	R	14	No	Req	18	35(b)	July
St. John's Hospital [+1]	Brooklyn	Church	250	4,483	40	100	R	7	No	Req	32	25	July
St. Mary's Hospital [+]	Brooklyn	Church	320	6,694	22	30	R	16	No	Req	20	30	July
St. Peter's Hospital	Brooklyn	Church	201	2,593	..	..	R	6	No	None	..	75	Varies
Unity Hospital	Brooklyn	NPAssn	283	5,638	15	100	R	12	No	Op	20	50	July
Wyckoff Heights Hospital [1]	Brooklyn	NPAssn	197	4,627	25	100	R	12	No	Req	19	50	July
Buffalo General Hospital [+1,2]	Buffalo	NPAssn	500	10,015	40	100	R	16	(67)	Req	44	No	July
Allied Hospitals of the Sisters of Charity	Buffalo	See Sisters Hospital											
Deaconess Hospital [+]	Buffalo	NPAssn	333	8,285	..	..	R	8	No	Req	32	40	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
NEW YORK—Continued													
Edward J. Meyer Memorial Hospital ✚[1,3]	Buffalo	County	1,107	10,345	100	..	R	24	No	Req	38	92(a)	July
Mercy Hospital	Buffalo	Church	258	6,317	..	100	R	6	No	Req	17	65	JanJune
Millard Fillmore Hospital ✚	Buffalo	NPAssn	444	12,165	..	100	R	7	(68)	Req	31	25(b)	July
Sisters Hospital	Buffalo	Church	375	9,626	3	97	R	14	(69)	Req	18	35	July
Mary Imogene Bassett Hospital ✚[1]	Cooperstown	NPAssn	110	2,468	..	100	R	6	No	Req	50	50	July
Arnot-Ogden Memorial Hospital	Elmira	NPAssn	217	6,164	11	60	R	4	No	None	27	75	July
St. Joseph's Hospital	Elmira	Church	291	6,053	15	..	R	6	No	None	21	50(b)	July
Ideal Hospital [1]	Endicott	City	126	2,542	..	100	R	3	No	None	22	80	July
Flushing Hospital [1,3]	Flushing	NPAssn	319	7,824	17	57	R	10	No	Req	18	100	July
Meadowbrook Hospital ✚[1]	Hempstead	County	274	4,500	..	100	R	12	No	Req	44	28.75	July
Jamaica Hospital [1]	Jamaica	NPAssn	227	6,055	..	..	R	8	No	Req	28	55	Varies
Mary Immaculate Hospital ✚[3]	Jamaica	Church	336	9,966	40	..	R	5	No	Op	19	45	July
Queens General Hospital ✚[1,3]	Jamaica	City	757	12,939	100	..	R	30	No	Req	45	25(b)	July
Charles S. Wilson Memorial Hospital ✚[1,3]	Johnson City	NPAssn	350	8,911	..	100	R	10	No	Req	29	100(b)	July
Our Lady of Victory Hospital	Lackawanna	Church	195	4,639	3	100	R	4	(70)	Req	20	75	July
St. John's Long Island City Hospital [3]	Long Island City	Church	268	5,505	45	..	R	6	No	Req	28	50	Varies
Nassau Hospital ✚[1]	Mineola	NPAssn	275	6,755	18	75	R	6	No	None	..	50(b)	July
Mount Vernon Hospital ✚[1]	Mount Vernon	NPAssn	260	6,224	18	20	R	6	No	Req	29	75	July
St. Luke's Hospital	Newburgh	NPAssn	225	4,441	..	..	R	5	No	Req	..	50	July
New Rochelle Hospital ✚[3]	New Rochelle	NPAssn	309	7,659	..	..	R	10	No	Req	25	50	July
Bellevue Hospital ✚	New York	City	3,165	58,778	100	..	(Apply to divisions listed below)						
Division I—Columbia University ✚[1]			226	5,225	100	..	M&S	16	No	Req	32	45	July
Division II—Cornell University ✚[1]			205	5,498	100	..	M&S	29	No	Req	32	45	July
Division III—New York University ✚[1]			374	11,172	100	..	M&S	75	No	Req	32	45	July
Division IV—Open Division ✚[1,3]			207	4,846	100	..	M&S	24	No	Req	32	45	July
Beth David Hospital	New York	NPAssn	190	4,637	..	100	R	12	No	Op	26	50	JanJuly
Beth Israel Hospital ✚[1,3]	New York	NPAssn	408	7,622	30	100	R	12	No	Op	32	25	July
Bronx Hospital ✚[1,3]	New York	NPAssn	386	8,437	27	100	R	8	No	Req	24	35	July
Columbus Hospital [3]	New York	Church	300	5,361	..	100	R	8	No	Op	23	50	Quarterly
Flower and Fifth Avenue Hospitals ✚[1,3]	New York	NPAssn	419	9,046	31	100	S	24	No	Req	27	No	July
Fordham Hospital ✚[1,3]	New York	City	539	11,719	100	..	R	18	No	Req	21	45	July
French Hospital ✚[1]	New York	NPAssn	313	6,605	30	98	R	15	No	Op	26	20	July
Goldwater Memorial Hospital ✚[1,3]	New York	City	1,660	1,581	100	..	M	14	No	Req	38	45	July
Gouverneur Hospital ✚[1,3]	New York	City	220	3,354	100	..	R	6	(71)	Req	16	45	July
Harlem Hospital ✚[1,3]	New York	City	763	18,227	100	..	R	44	No	Req	17	45	July
Hospital for Joint Diseases ✚[1,3]	New York	NPAssn	362	5,434	36	100	R	12	(72)	Req	39	25	JanJuly
Jewish Memorial Hospital ✚[3]	New York	NPAssn	229	5,483	40	..	R	14	No	Op	38	50	JanJuly
Knickerbocker Hospital ✚[1]	New York	NPAssn	165	3,015	60	90	M	12	No	Req	44	50	July
Lebanon Hospital [1]	New York	NPAssn	172	2,124	3	100	R	7	No	Op	49	25	July
Lenox Hill Hospital ✚[1,3]	New York	NPAssn	620	11,939	48	30	R	20	No	Req	44	40	July
Lincoln Hospital ✚[1,3]	New York	City	469	10,296	100	..	R	24	No	Req	22	45	July
Memorial Hospital ✚[3]	New York	NPAssn	223	5,300	..	..	R	..	No	....	49	..	.....
Metropolitan Hospital ✚[1,3]	New York	City	1,183	10,430	100	..	R	30	No	Req	22	45	July
Misericordia Hospital	New York	Church	236	4,678	20	..	R	5	No	Req	19	50	JanJuly
Montefiore Hosp. for Chronic Diseases ✚[1,3]	New York	NPAssn	556	2,396	65	100	M&S	11	No	Req	51	25	July
Morrisania City Hospital ✚[3]	New York	City	511	10,667	100	..	R	24	No	Req	19	45	July
Mother Cabrini Memorial Hospital	New York	Church	205	3,098	53	47	R	8	No	Req	20	50	Varies
Mount Sinai Hospital ✚[1,3]	New York	NPAssn	850	14,826	..	..	M	35	No	Op	63	25	July
New York City Hospital ✚[1,3]	New York	City	880	9,330	100	..	R	24	No	Req	39	45	July
New York Hospital ✚[1,3]	New York	NPAssn	1,093	18,899	..	100	S	45	No	Req	60	No	July
New York Infirmary ✚[2,3]	New York	NPAssn	161	2,703	53	75	R	7	No	Req	48	20	JanJulyOct
New York Polyclinic Medical School and Hospital ✚[3]	New York	NPAssn	422	8,792	..	100	R	8	No	Req	26	(b)	July
New York Post-Graduate Medical School and Hospital ✚[1,3]	New York	NPAssn	406	8,584	27	100	S	10	No	Req	38	No	AprJuly
Presbyterian Hospital ✚[1,3]	New York	NPAssn	1,563	27,442	58	..	M&S	25	No	Req	58	No	July
Roosevelt Hospital ✚[1,3]	New York	NPAssn	375	8,211	60	..	S	12	No	Req	28	No	July
St. Clare's Hospital ✚[1,3]	New York	Church	406	8,076	31	75	R	12	No	Req	42	10	JanJuly
St. Francis Hospital [1]	New York	Church	425	7,347	40	100	R	8	No	None	..	25	JanJuly
St. Luke's Hospital ✚[3]	New York	NPAssn	508	8,349	58	100	M	11	No	Req	35	No	July
St. Vincent's Hospital ✚[1]	New York	Church	644	12,363	51	49	R	20	No	Req	42	No	July
Sydenham Hospital ✚[1,3]	New York	NPAssn	252	6,325	..	100	R	16	No	Req	26	50	July
United Hospital	Port Chester	NPAssn	214	5,216	23	90	R	6	No	Req	27	100	July
Vassar Brothers Hospital	Poughkeepsie	NPAssn	250	6,039	31	..	R	5	No	Req	22	100	July
Genesee Hospital ✚[1]	Rochester	NPAssn	262	7,141	18	100	R	10	No	Req	54	25	July
Highland Hospital ✚[1]	Rochester	NPAssn	257	5,909	13	85	R	12	No	Req	42	25	July
Rochester General Hospital ✚[1]	Rochester	NPAssn	387	11,204	19	81	R	16	(73)	Req	72	50	July
St. Mary's Hospital ✚[1]	Rochester	Church	390	10,907	14	100	R	12	No	Req	42	40(b)	July
Strong Memorial-Rochester Municipal Hospitals ✚[1,3]	Rochester	NPAssn	732	16,100	56	100	M&S	39	No	Req	72	15	July
Rockaway Beach Hospital	Rockaway Beach	NPAssn	125	2,873	40	100	R	8	No	None	43	100	July
Ellis Hospital ✚[1]	Schenectady	NPAssn	478	13,694	5	100	R	8	No	Req	29	60	July
U. S. Marine Hospital (Staten Island) ✚[1,3]	Stapleton	USPHS	1,050	15,780	100	..	R	30	(74)	Req	65	150.30	July
St. Vincent's Hospital ✚	Staten Island	Church	246	6,387	42	100	R	8	No	Req	20	100	July
Staten Island Hospital	Staten Island	NPAssn	300	4,567	..	..	R	8	No	Req	21	100	July
Crouse-Irving Hospital ✚[1]	Syracuse	NPAssn	273	6,930	30	10	R	6	No	None	25	25	July
General Hospital ✚[1]	Syracuse	NPAssn	170	4,251	12	..	R	4	No	Req	35	25	July
Hospital of the Good Shepherd ✚[1]	Syracuse	NPAssn	195	4,738	25	..	R	24	(75)	None	42	No	July
St. Joseph Hospital	Syracuse	Church	250	5,367	23	85	R	6	No	None	20	35	July
Syracuse Memorial Hospital ✚	Syracuse	NPAssn	330	7,803	34	75	R	(75)	(75)	None	38	No	July
Samaritan Hospital ✚[1]	Troy	NPAssn	212	5,310	..	36	R	6	No	Req	25	50	July
Troy Hospital	Troy	Church	296	5,488	..	..	R	5	No	Req	10	..	July
Grasslands Hospital ✚[1,3]	Valhalla	County	825	3,914	100	..	R	20	No	Req	51	25	July
St. Agnes Hospital	White Plains	Church	177	3,037	..	100	R	5	No	Req	25	100	July
White Plains Hospital ✚[1]	White Plains	NPAssn	215	5,376	20	100	R	6	No	Req	26	50	July
St. John's Riverside Hospital	Yonkers	NPAssn	220	5,479	..	..	R	6	No	Req	15	50	JuiySept
St. Joseph's Hospital [1]	Yonkers	Church	186	2,831	10	100	R	5	No	Req	19	75	JanJune
Yonkers General Hospital [1]	Yonkers	NPAssn	163	4,094	16	30	R	5	No	Req	20	100	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
NORTH CAROLINA													
Charlotte Memorial Hospital ✦[1,3]	Charlotte	NPAssn	501	10,134	10	90	R	8	No	Req	48	40	July
Duke Hospital ✦[1,3]	Durham	NPAssn	604	13,049	50	100	R	52	(76)	Req	63	No	July
Lincoln Hospital	Durham	NPAssn	122	2,684	50	90	R	4	No	Req	17	25	July
Watts Hospital ✦[1]	Durham	NPAssn	225	8,061	8	100	R	6	No	Req	36	25	July
Rex Hospital ✦[1]	Raleigh	NPAssn	326	10,208	10	95	R	6	No	Req	20	105	July
St. Agnes Hospital	Raleigh	Church	118	2,242	39	..	R	4	No	None	..	25	July
James Walker Memorial Hospital ✦[1]	Wilmington	NPAssn	360	8,716	9	90	R	8	No	Req	21	75	AprOct
City Hospital ✦[3]	Winston-Salem	City	440	10,084	18	100	R	16	No	Req	20	25	July
North Carolina Baptist Hospital ✦[1]	Winston-Salem	Church	310	6,948	35	100	S	18	(77)	Req	59	No	Varies
NORTH DAKOTA													
St. Luke's Hospital ✦	Fargo	Church	147	5,070	..	..	R	3	No	None	35	50	Varies
Trinity Hospital ✦	Minot	Church	220	6,183	..	..	R	2	No	None	64	..	Varies
OHIO													
City Hospital ✦	Akron	NPAssn	497	14,088	8	..	R	15	(78)	Req	35	30(b)	July
Peoples Hospital ✦[1]	Akron	NPAssn	260	8,304	15	100	R	6	(78)	Req	35	50	July
St. Thomas Hospital ✦	Akron	Church	235	7,593	2	100	R	5	No	Req	30	75	July
Aultman Hospital ✦[1]	Canton	NPAssn	318	10,137	..	95	R	6	No	None	35	50	July
Mercy Hospital ✦	Canton	Church	265	8,662	..	100	R	6	No	None	16	75	July
Bethesda Hospital ✦[1]	Cincinnati	Church	265	7,743	15	90	R	8	(79)	Req	57	75	July
Christ Hospital ✦	Cincinnati	Church	387	10,434	15	95	R	12	(79)	Req	38	80	July
Cincinnati General Hospital ✦[1,3]	Cincinnati	City	965	14,093	100	..	R	40	No	Req	36	No	July
Deaconess Hospital ✦[1]	Cincinnati	Church	198	4,522	15	100	R	4	(80)	Req	30	75	AprJuly
Good Samaritan Hospital ✦	Cincinnati	Church	628	14,729	15	30	R	14	No	Req	23	60	July
Jewish Hospital ✦[1]	Cincinnati	NPAssn	300	7,843	2	100	R	10	(80)	Op	38	50	July
St. Mary's Hospital ✦	Cincinnati	Church	219	4,482	34	29	R	8	No	Req	23	75	July
City Hospital ✦[1,3]	Cleveland	City	1,132	13,759	100	..	R	24	No	Req	36	25	July
Evangelical Deaconess Hospital [1]	Cleveland	Church	164	5,590	..	..	R	4	No	None	22	..	July
Fairview Park Hospital ✦[1]	Cleveland	Church	201	6,575	4	100	R	4	No	Req	29	75	July
Lutheran Hospital ✦[1]	Cleveland	Church	100	4,834	2	98	R	4	No	None	45	75	July
Mount Sinai Hospital ✦[1,3]	Cleveland	NPAssn	262	8,459	9	100	R	12	No	Req	36	50	July
St. Alexis Hospital ✦	Cleveland	Church	255	8,513	14	100	R	8	No	Req	31	50	July
St. John's Hospital ✦	Cleveland	Church	275	8,022	12	100	R	8	No	None	25	50	July
St. Luke's Hospital ✦[1,3]	Cleveland	Church	376	11,224	11	75	R	20	No	Req	47	30	June
St. Vincent Charity Hospital ✦	Cleveland	Church	290	7,642	14	100	R	12	(81)	Req	32	50	July
United States Marine Hospital	Cleveland	USPHS	300	3,266	100	..	R	6	(82)	Req	50	132	July
University Hospitals ✦[1,3]	Cleveland	NPAssn	817	18,068	38	100	S	40	No	Req	52	No	July
Grant Hospital [1]	Columbus	NPAssn	313	9,035	10	100	R	6	No	None	26	75	July
Mount Carmel Hospital ✦	Columbus	Church	306	8,915	4	98	R	10	(83)	Req	34	50	July
St. Francis Hospital ✦	Columbus	State	161	3,826	..	100	R	9	(84)	None	27	29	July
Starling-Loving University Hospital ✦[1]	Columbus	State	314	7,386	55	100	R	12	(83)	Op	66	9	July
White Cross Hospital ✦	Columbus	Church	342	10,035	3	85	R	8	No	Req	32	50	July
Good Samaritan Hospital [1]	Dayton	Church	400	10,328	5	90	R	6	No	None	22	50	July
Miami Valley Hospital ✦[3]	Dayton	NPAssn	520	11,347	13	..	R	12	No	Req	38	50	July
St. Elizabeth Hospital	Dayton	Church	370	9,811	11	..	R	6	No	Req	22	50	July
Huron Road Hospital ✦[1]	East Cleveland	NPAssn	352	10,528	..	100	R	8	No	Req	39	50	July
Mercy Hospital ✦[1]	Hamilton	Church	290	7,528	..	50	R	4	No	Req	31	100	July
Lakewood Hospital ✦	Lakewood	City	157	4,031	100	..	R	4	No	Req	34	25	July
Lima Memorial Hospital	Lima	NPAssn	182	5,634	8	75	R	4	No	None	24	75	April
St. Rita's Hospital [1]	Lima	Church	199	5,357	41	18	R	3	No	Req	28	100	July
Springfield City Hospital	Springfield	City	332	8,473	7	50	R	6	No	Req	35	100	July
Maumee Valley Hospital ✦	Toledo	County	325	3,804	90	..	R	8	No	Req	30	75	July
Mercy Hospital ✦	Toledo	Church	340	9,845	20	100	R	8	No	Req	27	100	July
St. Vincent's Hospital ✦[1]	Toledo	Church	385	11,555	8	100	R	7	No	Op	24	75	July
Toledo Hospital ✦[1]	Toledo	NPAssn	320	8,126	3	70	R	10	No	Req	53	75	July
St. Elizabeth Hospital ✦[1]	Youngstown	Church	300	11,208	3	100	R	10	No	Req	24	75	July
Youngstown Hospital ✦[3]	Youngstown	NPAssn	632	17,646	4	100	R	15	(85)	Req	29	25(b)	July
OKLAHOMA													
St. Anthony Hospital ✦	Oklahoma City	Church	450	11,123	12	89	R	10	No	Req	26	50	July
University Hospitals ✦[1,3]	Oklahoma City	State	418	6,070	90	10	R	17	No	Req	33	25	July
Wesley Hospital	Oklahoma City	Part	183	6,015	8	80	R	6	No	Req	20	50	July
Hillcrest Memorial Hospital ✦[1]	Tulsa	NPAssn	418	11,165	..	100	R	10	No	None	22	50	July
St. John's Hospital	Tulsa	Church	325	9,568	33	..	R	10	No	Req	21	75	July
OREGON													
Emanuel Hospital ✦[1]	Portland	Church	425	11,465	..	100	R	12	No	None	43	50	July
Good Samaritan Hospital ✦	Portland	Church	505	13,145	10	50	R	14	No	None	53	50	July
Portland Sanitarium and Hospital	Portland	Church	190	7,629	..	100	R	5	No	None	40	104	July
Providence Hospital ✦	Portland	Church	237	6,322	..	..	R	6	(88)	None	27	50	July
St. Vincent's Hospital ✦	Portland	Church	424	10,527	..	..	R	15	(87)	None	43	50	July
University of Oregon Medical School Hospitals and Clinics ✦[1]	Portland	State	448	6,198	89	100	R	16	No	Op	51	50	July
PENNSYLVANIA													
Abington Memorial Hospital ✦[2]	Abington	NPAssn	337	8,794	38	98	R	12	No	Req	47	No	July
Allentown Hospital ✦[1,3]	Allentown	NPAssn	397	9,542	48	52	R	10	No	Req	31	50	July
Sacred Heart Hospital ✦[1]	Allentown	Church	335	7,073	..	99	R	6	No	Req	28	75	July
Altoona Hospital	Altoona	NPAssn	224	5,473	..	100	R	5	No	Req	16	50(b)	July
Mercy Hospital [1]	Altoona	NPAssn	190	4,561	46	..	R	5	No	Op	..	110	July
St. Luke's Hospital ✦[1,3]	Bethlehem	NPAssn	286	7,277	13	100	R	9	No	Req	43	30	JanJuly
Braddock General Hospital [1]	Braddock	NPAssn	175	4,355	9	100	R	5	No	Req	..	50	July
Bryn Mawr Hospital ✦[3]	Bryn Mawr	NPAssn	333	7,214	26	100	R	9	No	Req	45	No	July
Chester Hospital [1,3]	Chester	NPAssn	285	6,729	..	10	R	8	No	Req	22	75	July
George F. Geisinger Memorial Hospital ✦[3]	Danville	NPAssn	224	6,922	..	100	R	10	No	Req	51	20	July
Fitzgerald-Mercy Hospital	Darby	Church	264	5,093	25	100	R	7	No	Req	78	50	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
PENNSYLVANIA—Continued													
Easton Hospital [1,3]	Easton	NPAssn	210	4,657	20	10	R	6	No	Req	21	75	April
Hamot Hospital [+1]	Erie	NPAssn	332	8,307	19	50	R	10	No	Req	21	50	July
St. Vincent's Hospital [+]	Erie	NPAssn	335	9,128	12	..	R	8	No	Req	..	75	July
Westmoreland Hospital [1]	Greensburg	NPAssn	230	6,395	10	..	R	6	No	None	35	..	July
Harrisburg Hospital [+1]	Harrisburg	NPAssn	368	10,256	16	75	R	10	No	Req	31	83.33	July
Harrisburg Polyclinic Hospital	Harrisburg	NPAssn	220	5,415	..	100	R	4	No	Req	26	100	July
Conemaugh Valley Memorial Hospital [+1]	Johnstown	NPAssn	407	9,093	20	100	R	10	No	Req	20	75	July
Nesbitt Memorial Hospital [1]	Kingston	NPAssn	240	4,688	18	100	R	3	No	Req	23	50(b)	July
Lancaster General Hospital [1]	Lancaster	NPAssn	301	7,353	25	100	R	8	No	Req	44	50	July
St. Joseph's Hospital [+]	Lancaster	Church	266	5,968	18	..	R	6	No	Req	36	100	July
McKeesport Hospital	McKeesport	NPAssn	325	7,234	13	100	R	7	No	Req	19	100	July
Montgomery Hospital [1]	Norristown	NPAssn	221	3,936	44	100	R	8	No	Req	19	50	July
Chestnut Hill Hospital [1]	Philadelphia	NPAssn	142	2,934	..	..	R	4	No	Req	41	50	July
Episcopal Hospital [+2]	Philadelphia	Church	552	8,939	..	..	R	18	No	Req	45	No	July
Frankford Hospital [+1]	Philadelphia	NPAssn	192	4,490	..	100	R	7	No	Req	15	75	July
Germantown Dispensary and Hospital [+3]	Philadelphia	NPAssn	410	6,951	60	100	R	12	No	Req	60	No	July
Graduate Hospital of the University of Pennsylvania [+2]	Philadelphia	NPAssn	461	5,347	100	10	R	16	(88)	Req	76	No	July
Hahnemann Hospital [+1,3]	Philadelphia	NPAssn	631	10,995	5	..	R	24	No	Req	46	No	July
Hospital of the University of Penn. [+1,3]	Philadelphia	NPAssn	761	16,324	61	100	R	22	No	Req	75	No	July
Hospital of the Woman's Medical College [+2]	Philadelphia	NPAssn	206	4,812	..	100	R	6	No	Req	37	No	July
Jefferson Medical College Hospital [+3]	Philadelphia	NPAssn	775	17,794	58	100	R	28	No	Req	55	No	July
Jewish Hospital [+1,3]	Philadelphia	NPAssn	435	8,665	42	100	R	18	(89)	Req	56	No	July
Lankenau Hospital [+]	Philadelphia	NPAssn	294	5,534	..	100	R	10	(90)	Req	59	No	July
Memorial Hospital [3]	Philadelphia	NPAssn	118	2,809	36	90	R	3	No	Req	26	100	July
Mercy Hospital [1]	Philadelphia	NPAssn	125	2,437	..	100	R	5	No	Req	17	15	July
Methodist Hospital	Philadelphia	Church	246	5,136	..	100	R	8	No	Op	36	24	July
Misericordia Hospital [1,3]	Philadelphia	Church	250	5,627	32	..	R	9	No	Req	32	No	July
Mount Sinai Hospital [+1,3]	Philadelphia	NPAssn	317	6,458	57	25	R	14	No	Req	61	No	July
Nazareth Hospital [+1]	Philadelphia	Church	185	4,712	25	100	R	4	No	Req	29	75	July
Northeastern Hospital [1,3]	Philadelphia	NPAssn	102	2,363	..	..	R	4	No	Req	21	..	July
Pennsylvania Hospital [+2]	Philadelphia	NPAssn	559	9,896	..	100	R	18	(91)	Req	44	No	July
Philadelphia General Hospital [+1,3]	Philadelphia	City	2,560	21,004	100	..	R	65	(89)	Req	70	No	July
Presbyterian Hospital [+1,3]	Philadelphia	Church	409	6,380	42	100	R	12	No	Req	59	No	July
St. Agnes Hospital	Philadelphia	Church	426	6,113	33	100	R	6	No	Req	33	75	July
St. Joseph's Hospital [1]	Philadelphia	Church	233	4,182	..	..	R	6	No	Req	18	50	July
St. Luke's and Children's Medical Center [+1]	Philadelphia	NPAssn	362	7,073	42	90	R	9	No	Req	..	75	July
St. Mary's Hospital [1]	Philadelphia	Church	280	5,290	..	100	R	8	No	Req	22	..	July
Temple University Hospital [+1,3]	Philadelphia	NPAssn	550	11,561	..	100	R	18	(92)	Req	50	No	July
Woman's Hospital [+2]	Philadelphia	NPAssn	185	3,530	34	100	R	6	No	Req	44	..	July
Women's Homeopathic Hospital [+1]	Philadelphia	NPAssn	210	3,786	51	100	R	4	No	Req	31	75	July
Allegheny General Hospital [+]	Pittsburgh	NPAssn	608	11,171	45	100	R	16	No	Req	23	No	July
Mercy Hospital [+1]	Pittsburgh	Church	723	13,502	35	100	R	24	(93)	Req	29	No	July
Montefiore Hospital [+]	Pittsburgh	NPAssn	257	6,395	18	100	R	10	No	Req	37	25	July
Pittsburgh Hospital [1]	Pittsburgh	NPAssn	225	5,274	90	100	R	6	No	Req	20	50	July
Presbyterian Hospital [+1]	Pittsburgh	NPAssn	235	4,879	14	100	R	10	(94)	Req	27	No	July
St. Francis Hospital [+3]	Pittsburgh	NPAssn	698	11,418	..	100	R	20	(95)	Req	25	No	July
St. John's General Hospital [1]	Pittsburgh	NPAssn	250	6,079	45	55	R	6	No	Req	20	50	July
St. Joseph's Hospital and Dispensary	Pittsburgh	Church	200	4,441	..	100	R	8	No	Req	19	75(b)	July
St. Margaret Memorial Hospital [+1]	Pittsburgh	Church	150	2,822	..	100	R	4	No	Req	33	50	July
Shadyside Hospital [1]	Pittsburgh	NPAssn	337	7,309	6	100	R	10	(95)	Op	21	75	July
South Side Hospital [1]	Pittsburgh	NPAssn	240	5,273	..	100	R	7	No	Req	19	75	July
Western Pennsylvania Hospital [+1,3]	Pittsburgh	NPAssn	594	10,861	87	..	R	19	No	Req	20	No	July
Pottsville Hospital [1]	Pottsville	NPAssn	172	3,415	40	..	R	3	No	Req	15	100	July
Community General Hospital [1]	Reading	NPAssn	134	3,227	29	..	R	4	No	Req	27	150	July
Reading Hospital [+1,3]	Reading	NPAssn	356	9,036	20	100	R	10	No	Req	60	100	July
St. Joseph's Hospital [+3]	Reading	Church	220	5,553	20	75	R	6	No	Req	53	..	July
Robert Packer Hospital [+]	Sayre	NPAssn	325	9,160	..	35	R	10	No	Req	47	No	JanJuly
Moses Taylor Hospital [1]	Scranton	NPAssn	120	2,001	..	100	R	3	(96)	Req	22	100	July
Scranton State Hospital [1]	Scranton	State	310	5,395	68	35	R	10	No	Req	20	110	July
Sewickley Valley Hospital [1]	Sewickley	NPAssn	185	4,577	..	100	R	4	No	Req	32	100	July
Uniontown Hospital	Uniontown	NPAssn	250	6,780	27	83	R	6	No	Req	35	100	July
Washington Hospital	Washington	NPAssn	224	4,841	4	100	R	8	No	Req	16	100	July
Chester County Hospital [+3]	West Chester	NPAssn	179	4,000	45	55	R	6	No	Req	18	100	July
Mercy Hospital [+1,3]	Wilkes-Barre	Church	228	5,259	25	75	R	6	No	Req	23	50	July
Wilkes-Barre General Hospital [+1]	Wilkes-Barre	NPAssn	417	8,284	36	..	R	10	No	Req	..	50	July
Columbia Hospital [+]	Wilkinsburg	Church	225	5,337	14	100	R	5	No	Req	24	50	July
Williamsport Hospital [+1]	Williamsport	NPAssn	304	9,160	24	61	R	7	No	Req	31	75	July
Windber Hospital [1]	Windber	NPAssn	117	2,986	..	100	R	4	No	Req	..	75	Oct
York Hospital [+3]	York	NPAssn	248	6,161	..	..	R	8	No	Req	22	65	July
RHODE ISLAND													
Memorial Hospital [1,3]	Pawtucket	NPAssn	202	6,226	79	21	R	6	No	Req	27	50	July
Roger Williams General Hospital	Providence	NPAssn	196	4,942	11	85	R	6	No	Req	17	100	April
Rhode Island Hospital [+3]	Providence	NPAssn	492	10,727	63	100	R	24	(38)	Req	75	No	July
St. Joseph's Hospital [3]	Providence	Church	385	7,534	20	60	R	6	No	Req	38	100	July
SOUTH CAROLINA													
Roper Hospital [+1,3]	Charleston	NPAssn	535	10,193	46	100	R	20	No	Req	42	10	July
Columbia Hospital [1]	Columbia	County	494	10,983	16	..	R	10	No	Req	19	50(b)	July
Greenville General Hospital [1]	Greenville	City	362	10,397	20	100	R	8	No	Req	31	100	July
TENNESSEE													
Baroness Erlanger Hospital [+1,3]	Chattanooga	CyCo	504	16,002	34	100	R	18	(97)	Req	23	60	July
Knoxville General Hospital [+2]	Knoxville	City	325	8,933	39	100	R	9	No	Req	21	40	Quarterly
Baptist Memorial Hospital [+]	Memphis	Church	630	21,344	28	75	R	15	No	None	19	50	July
John Gaston Hospital [+3]	Memphis	City	550	16,602	95	100	R	24	No	Req	56	35	AprJulyOct
Methodist Hospital [+1]	Memphis	Church	300	11,293	10	25	R	10	No	None	31	50	Quarterly

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Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
TENNESSEE—Continued													
St. Joseph Hospital ✦	Memphis	Church	349	10,932	10	100	R	4	No	Req	34	50	Quarterly
George W. Hubbard Hospital ✦[2]	Nashville	NPAssn	181	3,087	89	95	R	7	No	Req	24	15(b)	July
Nashville General Hospital ✦	Nashville	City	337	5,965	77	23	R	14	No	Req	30	25	July
Protestant Hospital	Nashville	NPAssn	130	4,516	2	100	R	5	No	None	25	40(b)	July
St. Thomas Hospital ✦	Nashville	Church	245	8,146	24	100	S	9	(98)	None	37	30	July
Vanderbilt University Hospital ✦[1]	Nashville	NPAssn	398	8,145	..	..	S	23	(99)	None	60	No	July
Oak Ridge Hospital [1]	Oak Ridge	Fed	300	12,364	100	..	R	6	No	None	38	100	July
TEXAS													
Brackenridge Hospital [1]	Austin	City	272	6,282	32	100	R	8	No	Req	18	60	July
Baylor University Hospital ✦[1,2]	Dallas	Church	500	15,376	26	100	R	22	No	Req	30	37.50	July
Methodist Hospital ✦[2]	Dallas	Church	250	8,685	..	100	R	6	No	Req	21	50	July
Parkland Hospital ✦[1,2]	Dallas	CyCo	488	9,411	90	100	R	16	No	Req	41	10	July
St. Paul's Hospital ✦	Dallas	Church	340	13,647	..	100	R	16	No	Req	25	25	July
El Paso City-County Hospital	El Paso	CyCo	211	2,444	98	..	R	3	No	Req	59	75	July
City-County Hospital [2]	Fort Worth	CyCo	186	4,508	100	..	R	8	No	Req	29	25	July
Harris Memorial Methodist Hospital ✦[1]	Fort Worth	Church	352	10,885	10	100	R	12	No	Req	54	50(b)	July
St. Joseph's Hospital	Fort Worth	Church	305	9,649	..	100	R	6	No	None	19	100	July
John Sealy Hospital ✦[1]	Galveston	State	483	8,540	30	100	R	18	No	Req	62	25	July
United States Marine Hospital [2]	Galveston	USPHS	202	3,429	100	..	R	6	(100)	Req	62	70.38	July
Hermann Hospital ✦[1]	Houston	NPAssn	320	8,720	50	100	R	12	(101)	Req	51	20	July
Jefferson Davis Hospital ✦[1,2]	Houston	CyCo	403	11,480	100	..	R	20	No	Req	23	25	July
Methodist Hospital ✦[1]	Houston	Church	157	4,839	10	100	R	4	No	Req	35	25	July
Medical and Surgical Memorial Hospital [1]	San Antonio	NPAssn	280	10,326	..	65	R	10	No	Req	..	75	July
Nix Memorial Hospital [1]	San Antonio	Corp	181	5,181	..	100	R	3	No	None	23	100	July
Robert B. Green Memorial Hospital [1,2]	San Antonio	County	196	3,737	100	..	R	11	No	Req	35	25	July
Santa Rosa Hospital ✦	San Antonio	Church	411	12,530	8	100	R	16	No	Req	22	75	July
Kings Daughters Hospital [1]	Temple	NPAssn	126	2,133	..	100	R	3	No	None	19	100	July
Scott and White Hospital ✦[2]	Temple	Corp	271	6,172	..	100	R	9	(102)	Req	39	75	July
Wichita Falls Clinic Hospital	Wichita Falls	Part	110	4,542	..	100	R	3	No	Req	35	150	July
UTAH													
St. Benedict's Hospital	Ogden	Church	182	5,960	..	..	R	5	No	Req	44	50	July
Thomas D. Dee Memorial Hospital ✦[1]	Ogden	Church	400	10,315	..	..	R	6	No	Req	23	25	July
Dr. W. H. Groves Latter-Day Saints Hosp. ✦	Salt Lake City	Church	486	12,414	3	..	R	10	No	Req	29	25(b)	July
Holy Cross Hospital ✦[1]	Salt Lake City	Church	250	5,875	..	90	R	7	No	None	32	25(b)	July
St. Mark's Hospital ✦[1]	Salt Lake City	Church	244	5,234	6	100	R	6	No	None	33	75(b)	July
Salt Lake County General Hospital ✦[1]	Salt Lake City	County	300	3,853	77	23	R	10	No	Req	65	25(b)	July
VERMONT													
Bishop DeGoesbriand Hospital ✦[1,2]	Burlington	Church	140	3,091	43	99	R	2	No	None	44	50	July
Mary Fletcher Hospital ✦[1]	Burlington	NPAssn	230	5,411	39	100	R	7	No	Req	59	50	July-Oct
VIRGINIA													
Alexandria Hospital ✦[1]	Alexandria	NPAssn	225	5,417	18	100	R	6	No	None	57	50	July
University of Virginia Hospital ✦[1]	Charlottesville	State	549	13,257	100	..	M	25	(103)	Req	49	No	July
Chesapeake and Ohio Hospital ✦	Clifton Forge	NPAssn	165	5,526	96	100	R	3	No	....	43	..	.....
De Paul Hospital ✦[1]	Norfolk	Church	303	9,100	10	90	R	9	No	Op	70	75	July
Norfolk General Hospital ✦[1]	Norfolk	NPAssn	375	9,234	15	100	R	10	No	Req	58	50	July
United States Marine Hospital [2]	Norfolk	USPHS	420	6,423	100	..	R	12	(104)	Req	25	93.05	July
Johnston-Willis Hospital ✦[1]	Richmond	Corp	167	5,474	..	75	R	5	No	Req	44	25	July
Medical College of Virginia, Hosp. Div. ✦[1,2] (Memorial, Dooley and St. Philip Hosps.)	Richmond	State	759	14,397	58	100	RMS	42	Yes	Req	42	No	July
Stuart Circle Hospital	Richmond	Corp	137	3,845	..	100	R	3	No	None	45	25(b)	July
Jefferson Hospital ✦	Roanoke	NPAssn	180	4,729	..	..	R	4	No	Req	23	50	July
Lewis-Gale Hospital ✦	Roanoke	NPAssn	202	5,464	..	100	R	4	No	Req	25	75	July
Roanoke Hospital [1]	Roanoke	NPAssn	150	2,900	..	..	R	4	No	Req	27	100	July
WASHINGTON													
Columbus Hospital [1]	Seattle	Church	240	6,477	..	100	R	5	(105)	Req	27	50	July
Doctors Hospital ✦	Seattle	NPAssn	248	5,277	..	15	R	4	No	None	62	50	July
King County Hospital Unit No. 1 ✦[2] (Harborview)	Seattle	County	505	12,157	100	..	R	24	No	Req	40	75	July
Providence Hospital ✦	Seattle	Church	434	11,649	..	100	R	8	No	Req	46	50	July
Seattle General Hospital	Seattle	NPAssn	150	4,249	..	100	R	4	(106)	None	16	100	Jan-July
Swedish Hospital ✦	Seattle	NPAssn	374	9,700	..	..	R	10	(106)	Req	44	50	July
United States Marine Hospital [2]	Seattle	USPHS	414	6,849	100	..	R	13	No	Req	72	142	July
Virginia Mason Hospital ✦	Seattle	NPAssn	241	6,497	..	100	R	8	No	Req	70	50	July
Deaconess Hospital ✦[1]	Spokane	Church	273	8,171	..	100	R	6	(107)	None	43	85	July
Sacred Heart Hospital ✦	Spokane	Church	435	12,501	..	..	R	8	No	None	..	85	July
St. Luke's Hospital [1]	Spokane	NPAssn	276	7,287	..	..	R	8	No	None	63	85	July
Pierce County Hospital [1]	Tacoma	County	229	3,440	96	100	R	8	(108)	Req	47	100	July
St. Joseph's Hospital	Tacoma	Church	346	9,334	..	100	R	4	No	None	26	100	July
Tacoma General Hospital ✦[1]	Tacoma	NPAssn	283	7,693	..	..	R	6	No	Req	29	75	July
Northern Permanente Foundation ✦	Vancouver	NPAssn	360	11,087	..	..	R	8	No	Op	..	..	July
WEST VIRGINIA													
Charleston General Hospital ✦[1]	Charleston	NPAssn	335	10,377	50	50	R	10	No	Req	48	100	July
Kanawha Valley Hospital	Charleston	Corp	165	4,914	82	75	R	2	No	Req	30	100	July
Chesapeake and Ohio Hospital ✦	Huntington	NPAssn	185	3,560	..	..	R	3	No	Op	36	50	July
St. Mary's Hospital ✦	Huntington	Church	356	10,293	..	..	R	7	No	None	15	50(b)	July
St. Joseph's Hospital ✦	Parkersburg	Church	180	4,291	..	100	R	3	No	None	48	100	July
Ohio Valley General Hospital	Wheeling	NPAssn	360	8,431	10	100	R	10	No	Req	18	100	July
Wheeling Hospital [1]	Wheeling	Church	290	7,692	10	..	R	5	No	None	15	100	July

Abbreviations and other references will be found on page 1334.

Name of Hospital	Location	Control	Capacity	Total Patients Admitted	% Service Cases	% Private Patients Assigned to Interns	Type of Internship	Internships	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month	Service Commences
WISCONSIN													
St. Elizabeth Hospital	Appleton	Church	244	6,578	..	100	R	3	No	None	27	..	July
Luther Hospital [1]	Eau Claire	NPAssn	200	5,495	..	100	R	4	No	None	34	50(b)	July
St. Agnes Hospital	Fond du Lac	Church	340	7,887	..	100	R	4	No	None	31	50	July
La Crosse Lutheran Hospital +[1]	La Crosse	Church	147	4,524	..	100	R	3	No	None	42	50	July
St. Francis Hospital [1]	La Crosse	Church	315	7,813	..	100	R	6	No	Req	37	100	July
Madison General Hospital +[1]	Madison	NPAssn	203	6,518	..	100	R	6	No	None	37	50	July
Methodist Hospital	Madison	Church	125	3,730	..	100	R	4	No	Req	..	65(b)	July
St. Mary's Hospital	Madison	Church	250	7,340	..	100	R	6	No	None	29	50(b)	July
State of Wisconsin General Hospital +[1]	Madison	State	772	12,037	100	..	R	20	No	Req	64	No	July
St. Joseph's Hospital [1]	Marshfield	Church	216	5,835	..	80	R	3	No	Req	22	100	July
Columbia Hospital +	Milwaukee	NPAssn	185	4,398	..	100	R	6	No	Req	49	25	July
Evangelical Deaconess Hospital	Milwaukee	Church	170	5,454	..	99	R	6	No	Req	25	75	JanJuly
Milwaukee County Hospital +[1,8]	Milwaukee	County	944	14,401	100	..	R	40	(169)	Req	35	10(b)	July
Milwaukee Hospital +	Milwaukee	Church	359	9,750	2	..	R	9	No	None	42	30	July
Misericordia Hospital	Milwaukee	Church	152	4,242	..	..	R	3	No	None	21	100	July
Mount Sinai Hospital +[1]	Milwaukee	NPAssn	217	7,315	2	100	R	5	No	Req	36	40	July
St. Joseph Hospital +	Milwaukee	Church	410	12,180	..	95	R	10	(110)	Req	25	40	JulyDec
St. Luke's Hospital +	Milwaukee	Church	130	4,889	..	100	R	4	No	None	..	..	July
St. Mary's Hospital +	Milwaukee	Church	252	8,304	..	..	R	6	No	Req	29	50	July
St. Michael's Hospital [1]	Milwaukee	Church	104	4,104	20	..	R	4	No	Req	27	75	June
Mercy Hospital [1]	Oshkosh	Church	239	6,022	..	..	R	5	No	None	..	100	July
St. Mary's Hospital	Racine	Church	271	6,093	..	100	R	4	No	None	26	75	JanJuly
CANAL ZONE													
Gorgas Hospital +	Ancon	Fed	988	16,083	100	..	R	20	No	Req	83	166.67	July
HAWAII													
Kuakini Hospital	Honolulu	NPAssn	140	5,131	..	50	R	4	No	None	20	50	August
Queen's Hospital +[1]	Honolulu	NPAssn	430	12,961	5	100	R	16	(111)	None	67	..	Varies
St. Francis Hospital [1]	Honolulu	Church	202	5,623	..	..	R	6	No	Req	41	50	Quarterly
PHILIPPINES													
Philippine General Hospital	Manila	.....	...	.....	..	..	..	..	...	....	..	..	.....
PUERTO RICO													
Arecibo Charity District Hospital [1]	Arecibo	Govt	288	4,246	100	..	R	4	No	Op	23	150	April
Bayamon District Hospital	Bayamon	Govt	335	5,754	100	..	R	6	No	Req	..	150	Varies
Fajardo Charity District Hospital [1]	Fajardo	Govt	335	4,390	..	..	R	4	No	Req	17	75	July
Presbyterian Hospital [1]	San Juan	Church	130	3,788	50	100	R	4	No	Req	19	10	July

HOSPITALS APPROVED FOR INTERNSHIPS IN THE DOMINION OF CANADA

For the benefit of graduates of approved medical colleges who desire an internship in Canada, the Council on Medical Education and Hospitals of the American Medical Association has declared that hospitals which conform to the standards of the Canadian Medical Association should be regarded as giving an internship equivalent in educational value to that offered by hospitals in the United States approved for intern training by the Council. It is understood, however, that this statement applies only to hospitals that are unqualifiedly "Approved" under the Canadian plan and does not apply to that group referred to as "Commended."

The following list of hospitals, revised to April 1, 1947, has been furnished by the Canadian Medical Association.

Name of Hospital	Location	Name of Hospital	Location	Name of Hospital	Location
Camp Hill Hospital	Halifax, N. S.	Hamilton General Hospital	Hamilton, Ont.	Hotel Dieu of St. Joseph	Windsor, Ont.
Victoria General Hospital	Halifax, N. S.	St. Joseph's Hospital	Hamilton, Ont.	Children's Hospital	Winnipeg, Man.
St. John General Hospital	St. John, N. B.	St. Joseph's Hospital	London, Ont.	Deer Lodge Hospital	Winnipeg, Man.
Hospital du St. Sacrament	Quebec, Que.	Victoria Hospital	London, Ont.	Misericordia Hospital	Winnipeg, Man.
Hospital Dieu de Quebec	Quebec, Que.	Westminster Hospital	London, Ont.	Winnipeg General Hospital	Winnipeg, Man.
Hospital of the Infant Jesus	Quebec, Que.	Oshawa General Hospital	Oshawa, Ont.	St. Boniface Hospital	St. Boniface, Man.
Jeffrey Hale's Hospital	Quebec, Que.	Ottawa Civic Hospital	Ottawa, Ont.	Regina Grey Nuns' Hospital	Regina, Sask.
Children's Memorial Hospital	Montreal, Que.	Ottawa General Hospital	Ottawa, Ont.	Regina General Hospital	Regina, Sask.
Herbert Reddy Mem. Hospital	Montreal, Que.	Hotel Dieu Hospital	Kingston, Ont.	St. Paul's Hospital	Saskatoon, Sask.
Homeopathic Hospital	Montreal, Que.	Kingston General Hospital	Kingston, Ont.	Saskatoon City Hospital	Saskatoon, Sask.
Hospital Notre Dame	Montreal, Que.	Christie Street Hospital	Toronto, Ont.	Calgary General Hospital	Calgary, Alta.
Hospital Ste. Jeanne d'Arc	Montreal, Que.	Hospital for Sick Children	Toronto, Ont.	Colonel Belcher Hospital	Calgary, Alta.
Hospital Ste. Justine	Montreal, Que.	Mount Sinai Hospital	Toronto, Ont.	Holy Cross Hospital	Calgary, Alta.
Hotel Dieu de Montreal	Montreal, Que.	St. Joseph's Hospital	Toronto, Ont.	Edmonton General Hospital	Edmonton, Alta.
Hospital Ste. Luc	Montreal, Que.	St. Michael's Hospital	Toronto, Ont.	Misericordia Hospital	Edmonton, Alta.
Jewish General Hospital	Montreal, Que.	Toronto East General Hospital	Toronto, Ont.	Royal Alexandra Hospital	Edmonton, Alta.
Montreal General Hospital	Montreal, Que.	Toronto General Hospital	Toronto, Ont.	University of Alberta Hosp	Edmonton, Alta.
Queen Mary Veterans Hospital	Montreal, Que.	Toronto Western Hospital	Toronto, Ont.	St. Paul's Hospital	Vancouver, B. C.
Royal Victoria Hospital	Montreal, Que.	Wellesley Hospital	Toronto, Ont.	Shaughnessy Hospital	Vancouver, B. C.
St. Mary's Hospital	Montreal, Que.	Women's College Hospital	Toronto, Ont.	Vancouver General Hospital	Vancouver, B. C.
Ste. Anne's Hospital	Ste. Anne de Bellevue, Que.	Grace Hospital	Windsor, Ont.	Royal Jubilee Hospital	Victoria, B. C.
Brantford General Hospital	Brantford, Ont.	Metropolitan Hospital	Windsor, Ont.	St. Joseph's Hospital	Victoria, B. C.

Abbreviations and other references will be found on page 1334.

ABBREVIATIONS AND NOTES

CyCo	City and County	NPAssn	Nonprofit association	R	Rotating
Corp	Corporation unrestricted as to profit	Op	Optional	S	Straight
M	Mixed	Part	Partnership	USPHS	United States Public Health Service
		Req	Required		

1. Women interns admitted.
2. Women interns only.
3. Dental interns employed.

(a) In lieu of maintenance.
(b) Bonus in addition to salary.
(c) Male patients only.

Affiliations as Referred to in Column Headed: "Affiliated Service"

4. Jefferson Tuberculosis Sanatorium, Birmingham.
5. Arkansas Children's Home and Hospital, State Hospital, Little Rock, pediatrics, psychiatry.
6. Santa Monica Hospital, emergency, outpatient service.
7. Compton Sanitarium, Compton, psychiatry; Children's Hospital, Los Angeles, pediatrics.
8. Children's Hospital, Los Angeles Maternity Service, pediatrics, obstetrics.
9. Fairmont Hospital of Alameda County, San Leandro, and Arroyo-Del Valle Sanatorium, Livermore, medicine, surgery, tuberculosis.
10. Woman's Hospital, Pasadena, obstetrics.
11. Laguna Honda Home, San Francisco, chronic diseases; Hassler Health Home, Redwood City, tuberculosis.
12. St. Francis Hospital, San Francisco, obstetrics.
13. Franklin Hospital, San Francisco, obstetrics.
14. Langley Porter Clinic, Children's Hospital, San Francisco, psychiatry, pediatrics; Permanente Foundation Hospital, Oakland, industrial.
15. California Hospital, Los Angeles, pediatrics.
16. Childrens Hospital, National Jewish Hospital, Denver, contagious diseases, tuberculosis.
17. Boulder Colorado Sanitarium and Hospital.
18. Undercliff, Meriden State Tuberculosis Sanatorium, Meriden.
19. Connecticut State Hospital, Middleton, psychiatry.
20. Gallinger Municipal Hospital, Washington.
21. Children's Hospital, Eastern Dispensary and Casualty Hospital, Washington, pediatrics, emergency.
22. Children's Hospital, St. Elizabeths Hospital, Washington, pediatrics, psychiatry.
23. St. Elizabeth Hospital, Chicago, obstetrics, gynecology.
24. Frank Cuneo Hospital, Chicago, obstetrics, gynecology.
25. Winfield Hospital, Winfield, tuberculosis.
26. Children's Memorial Hospital, Chicago, pediatrics; Lake County Tuberculosis Sanatorium, Waukegan.
27. Chicago Intensive Treatment Center.
28. Chicago Maternity Center, obstetrics, gynecology; Chicago Memorial Hospital, pediatrics.
29. Children's Memorial Hospital, City of Chicago Municipal Tuberculosis Sanatorium, pediatrics, tuberculosis.
30. Indiana University Medical Center, Indianapolis, pediatrics.
31. St. Bernard's Hospital, Council Bluffs, psychiatry.
32. Salvation Army Home and Hospital, Sedgwick County Hospital, Wichita, obstetrics, general.
33. St. Joseph's Hospital, Sedgwick County Hospital, Wichita.
34. Children's Free Hospital, Louisville, pediatrics; Waverly Hills Sanatorium, Waverly Hills, tuberculosis.
35. Children's Free Hospital, Louisville, pediatrics.
36. Shreveport Charity Hospital, pathology.
37. University Hospital, Baltimore, obstetrics.
38. Charles V. Chapin Hospital, Providence, R. I., contagious diseases.
39. Boston Lying-In Hospital.
40. Wesson Maternity Hospital, Shriners Hospital for Crippled Children, Springfield, obstetrics, orthopedics.
41. Health Department Hospital, Shriners Hospital for Crippled Children, Springfield, tuberculosis, contagious diseases, orthopedics.
42. Herman Kiefer Hospital, Children's Hospital, City of Detroit Receiving Hospital.
43. Herman Kiefer Hospital.
44. Herman Kiefer Hospital, Children's Hospital.
45. St. Joseph's Retreat, Dearborn, psychiatry; Herman Kiefer Hospital, Detroit, contagious diseases.
46. St. Joseph's Retreat, Dearborn, psychiatry.
47. Grace Hospital, Detroit, obstetrics.
48. Children's Hospital, City of Detroit Receiving Hospital.
49. Herman Kiefer Hospital, Woman's Hospital, Detroit.
50. Ingham Sanatorium, Lansing, tuberculosis.
51. Miller Memorial Hospital, Duluth, outpatient service.
52. St. Mary's Hospital, Minneapolis, obstetrics.
53. Gillette State Hospital for Crippled Children, St. Paul.
54. Children's Hospital, St. Paul, pediatrics.
55. Kansas City Municipal Tuberculosis Hospital.
56. Washington University Group of Hospitals includes Barnes Hospital, McMillan Hospital, St. Louis Children's Hospital and St. Louis Maternity Hospital; Shriners Hospital for Crippled Children, City Sanitarium.
57. Robert Koch Hospital, Koch, tuberculosis.
58. City Sanitarium, St. Louis, psychiatry.
59. Shriners Hospital for Crippled Children, St. Louis.
60. St. Mary's Group of Hospitals includes the Firmin Desloge Hospital, St. Mary's Hospital and Mount St. Rose Sanatorium.
61. St. Elizabeth Hospital, Elizabeth, obstetrics.
62. Margaret Hague Maternity Hospital, Berthold S. Pollak Hospital for Chest Diseases, Jersey City.
63. Margaret Hague Maternity Hospital, Jersey City.
64. Anthony N. Brady Maternity Home, Albany.
65. Sydenham Hospital, Baltimore, contagious diseases.
66. Brooklyn Thoracic Hospital, tuberculosis.
67. Children's Hospital, Buffalo, pediatrics.
68. Edward J. Meyer Memorial Hospital, Buffalo, psychiatry, contagious diseases.
69. Allied Hospitals of the Sisters of Charity include Emergency Hospital, Louise de Marillac Hospital and Sisters Hospital.
70. Our Lady of Victory Infants' Home, Lackawanna, obstetrics, pediatrics.
71. Harlem Hospital, New York City, obstetrics.
72. Beth Israel Hospital, New York City, obstetrics.
73. Geneva General Hospital, Geneva.
74. Misericordia Hospital, New York City, obstetrics, gynecology, pediatrics.
75. Rotation service established between Hospital of the Good Shepherd, Syracuse Memorial Hospital, City Hospital and Syracuse Psychopathic Hospital, comprising Syracuse University Medical Center Hospitals.
76. North Carolina Orthopedic Hospital, Gastonia, orthopedics; Sydenham Hospital, Baltimore, pediatrics.
77. Forsyth County Hospital, Winston-Salem, surgery.
78. Children's Hospital, Akron, pediatrics.
79. Children's Hospital, Cincinnati, pediatrics.
80. Cincinnati General Hospital.
81. St. Ann's Maternity Hospital, Cleveland.
82. Mount Sinai Hospital, Cleveland, obstetrics, gynecology.
83. Children's Hospital, Columbus, pediatrics.
84. Children's Hospital, Grant Hospital, Columbus, pediatrics, obstetrics.
85. Youngstown Receiving Hospital, psychiatry.
86. St. Vincent's Hospital, Portland, obstetrics.
87. Providence Hospital, Portland, medicine, pediatrics.
88. Hospital of the University of Pennsylvania, Philadelphia, obstetrics.
89. Philadelphia Hospital for Contagious Diseases.
90. Children's Hospital of the Mary J. Drexel Home, Philadelphia, pediatrics.
91. Children's Hospital, Philadelphia, pediatrics.
92. Shriners Hospital for Crippled Children, Philadelphia Hospital for Contagious Diseases.
93. Rosella Foundling and Maternity Hospital, Pittsburgh.
94. Elizabeth Steel Magee Hospital, Children's Hospital, Eye and Ear Hospital, Woman's Hospital, Western State Psychiatric Institute and Clinic, Municipal Hospital, comprising Pittsburgh University Medical Center.
95. Municipal Hospital, Pittsburgh, contagious diseases.
96. Scranton State Hospital, Scranton, obstetrics.
97. T. C. Thompson Children's Hospital, Pine Breeze Sanatorium, Chattanooga, pediatrics, tuberculosis.
98. Vanderbilt University Hospital, Nashville.
99. Sydenham Hospital, Baltimore, pediatrics.
100. St. Mary's Infirmary, Galveston, obstetrics, gynecology.
101. Southern Pacific Hospital, Houston, industrial medicine, surgery.
102. Gulf, Colorado and Santa Fe Hospital, Temple, medicine, surgery.
103. Blue Ridge Sanatorium, Charlottesville, tuberculosis.
104. Norfolk General Hospital, Norfolk, obstetrics; Kings Daughters Hospital, Portsmouth, pediatrics.
105. King County Hospital, Seattle, outpatient service.
106. Children's Orthopedic Hospital, Seattle.
107. Edgecliff Sanatorium, Spokane, tuberculosis.
108. Mountain View Sanatorium, Lakeview, tuberculosis.
109. South View Hospital, Milwaukee, contagious diseases.
110. St. Michael Hospital, Milwaukee, outpatient service.
111. Kaulkeolani Children's Hospital, Honolulu, pediatrics; Kalaupapa Settlement, Kalaupapa, leprosy.

APPROVED RESIDENCIES AND FELLOWSHIPS FOR VETERAN AND CIVILIAN PHYSICIANS

Council on Medical Education and Hospitals of the American Medical Association
535 North Dearborn Street, Chicago 10

Revised to August 16, 1947

Hospitals, 1,017; Assistant Residencies, Residencies and Fellowships, 12,003

The following educational services investigated and approved by the Council on Medical Education and Hospitals are considered in position to furnish acceptable residency training in accordance with standards adopted by the American Medical Association. In practically all fields these training programs have been reviewed in collaboration with the respective specialty boards. Included in the present list is the expanded number of residencies now available in those approved hospitals which have completed their plans to provide further opportunities for discharged medical officers. Many additional residencies recently organized or in process of development may soon be added to the approved list. All arrangements for appointments should be made directly with the hospital concerned in the usual manner.

The star (*) indicates hospitals that are also approved for the training of interns. All hospitals on the approved intern list are likewise accredited for general residencies which represent general house staff assignments following the internship.

The dagger (†) represents temporary approval, *pending formal inspection,* in accordance with the plan for the temporary approval of residencies in specialties as announced in THE JOURNAL A. M. A., March 2, 1946, p. 586.

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1. ALLERGY

The following services are approved by the Council and the American Board of Internal Medicine

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Research and Educational Hospital *[4]	Chicago	B. Z. Rappaport	..	8,029	12	10/1	1	$150.00
Roosevelt Hospital *	New York City	R. A. Cooke	108	33,985	3	1/1	2-3	200.00
Montefiore Hospital *	Pittsburgh	L. H. Criep	52	2,500	1	7/1	1-2	50.00
University of Virginia Hospital *[4]	Charlottesville, Va.	O. Swineford Jr.	..	1,023	2	...	1	.....

2. ANESTHESIOLOGY

The following services are approved by the Council and the American Board of Anesthesiology

United States Army.—Residencies available to medical officers, U. S. Army.
†Fitzsimons General Hospital *.....Denver, Colo.

United States Navy.—Residencies available to medical officers, U. S. Navy.
†U. S. Naval Hospital *.....St. Albans, N. Y.

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Total Anesthetics	Inhalation Anesthetics	Autopsy Percentage	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Jefferson and Hillman Hospitals *[4]	Birmingham, Ala.	A. McNeal	20,281	9,012	4,449	30	1	7/1	1	$ 30.00
†Employees Hospital of the Tennessee Coal, Iron and Railroad Company *	Fairfield, Ala.	E. B. Robinson Jr.	6,908	2,648	1,610	41	1	7/1	1-2	200.00
Los Angeles County Hospital *[4]	Los Angeles	C. F. McCuskey and J. B. Dillon	54,593	7,979	2,012	33	12	Varies	2	157.20
White Memorial Hospital *[4]	Los Angeles	L. Lee	8,574	5,485	1,282	44	3	.....	1-3	30.00
†Peralta Hospital [4]	Oakland, Calif.	F. E. Davis	8,128	.....	.....	28	3	1/1, 7/1	2	125.00
Samuel Merritt Hospital	Oakland, Calif.	B. M. Anderson	8,312	4,854	3,166	57	2	1/1, 7/1	1-2	110.00
†Children's Hospital *[4]	San Francisco	H. Lapp	7,010	3,204	2,684	57	2	.....	1	.....
Franklin Hospital *[4]	San Francisco	J. L. Cardwell	6,636	4,390	2,802	33	2	1/1	1-2	100.00
Stanford University Hospitals *[4]	San Francisco	W. B. Neff	10,127	7,146	2,981	44	4	7/1	1-2	50.00
University of California Hospital *[4]	San Francisco	F. J. Murphy	7,518	4,878	2,669	69	3	7/1	1	50.00
†Veterans Administration Hospital	San Francisco	W. B. Neff	3,581	367	.....	41	3	Varies	1-3	275.00
†Veterans Administration Center	W. Los Angeles, Calif.	H. A. E. Wenger	10,269	2,550	90	40	6	7/1	2-3	275.00
Hartford Hospital *[4]	Hartford, Conn.	R. M. Tovell	22,825	20,603	9,002	44	20	Quarterly	1-2	50.00
†St. Francis Hospital *[4]	Hartford, Conn.	S. J. Martin	15,592	11,139	.....	31	10	4/1, 7/1	1-3	50.00
Grace-New Haven Community Hospital †New Haven Unit *	New Haven, Conn.	F. L. Herrick	10,794	6,004	5,435	51	1	7/1	1-3	40.00
†Waterbury Hospital *	Waterbury, Conn.	F. C. Wilcox Jr.	9,869	5,694	2,139	39	2	Varies	1-2	75.00
†Memorial Hospital *[4]	Wilmington, Del.	R. D. Saunders	5,222	2,718	.....	52	3	.....	1-3	100.00
†Doctors Hospital *	Washington, D. C.	D. Stubbs	8,487	5,545	.....	65	2	7/1	1-3	100.00
†Gallinger Municipal Hospital *[4]	Washington, D. C.	L. H. Mousel and D. Stubbs	17,636	5,061	2,898	44	7	7/1	1-3	75.00
†George Washington University Hospital *	Washington, D. C.	L. H. Mousel	2,886	1,424	609	48	5	.....	1	.....
†Veterans Administration Hospital	Washington, D. C.	L. M. Jones	3,385	1,880	150	48	2	1/1	1-3	275.00
University Hospital *[4]	Augusta, Ga.	P. P. Volpitto	11,416	5,527	4,003	30	3	7/1	1-2	40.00
Michael Reese Hospital *[4]	Chicago	B. Stodsky	14,830	6,117	4,129	66	6	.....	1-2	50.00
†Mount Sinai Hospital *[4]	Chicago	R. Weyl	7,320	3,850	3,007	40	1	7/1	1	50.00
†Passavant Memorial Hospital *[4]	Chicago	M. Karp	5,800	3,541	2,843	69	1	.....	1	.....
Research and Educational Hospitals *[4]	Chicago	W. H. Cassels	5,945	2,673	1,679	90	5	7/1	1-3	55.00
St. Luke's Hospital *[4]	Chicago	W. A. Conroy	14,303	9,524[b]	3,949[b]	59	5	7/1	1-3	25.00
University of Chicago Clinics *[4]	Chicago	H. L. Adams	11,779	8,266	6,473	83	5	7/1	1-2	25.00

Numerical and other references will be found on page 1375.

2. ANESTHESIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Total Anesthetics	Inhalation Anesthetics	Autopsy Percentage	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Wesley Memorial Hospital *[4]	Chicago	M. Karp	12,541	6,820	4,306	62	2	1/1, 7/1	1-3	25.00
Evanston Hospital *	Evanston, Ill.	J. E. Remlinger	8,996	4,304	3,533	86	5	.....	3	50.00
Indianapolis City Hospital *	Indianapolis	L. B. Mueller	10,565	9,144	2,183	41	2	.....	1	.....
Methodist Hospital *[4]	Indianapolis	J. Whitehead	20,765	14,818	10,570	33	4	7/1	1-2	200.00
†Veterans Administration Hospital [4]	Indianapolis	L. B. Mueller	4,845	1,116	185	26	2	Varies	1-5	275.00
†Ball Memorial Hospital *[4]	Muncie, Ind.	W. B. Adams	9,778	4,942	2,020	31	2	7/1	1-2	125.00
†Memorial Hospital *	South Bend, Ind.	R. Rosenheimer	9,229	.....	.....	34	1	7/1	2	100.00
†Veterans Administration Hospital	Des Moines, Ia.	S. C. Cullen	4,485	808	.....	19	1	Varies	1-3	275.00
University Hospital *[4]	Iowa City	S. C. Cullen	18,490	8,289	4,727	56	9	7/1	1	40.00
University of Kansas Hospitals *[4]	Kansas City, Kan.	P. Lorhan	8,181	.....	.....	59	2	.....	1	.....
Louisville General Hospital *	Louisville, Ky.	M. Davis	12,006	3,296	995	38	3	.....	1	.....
Charity Hospital of Louisiana *[4]	New Orleans	J. Adriani	41,449	15,200	8,070	49	8	7/1	1-3	25.00
†Central Maine General Hospital *[4]	Lewiston, Maine	G. Clapperton	6,628	3,428	2,466	55	2	1/1, 7/1	1-2	100.00
†Beverly Hospital *	Beverly, Mass.	J. H. Fine	4,649	2,627	613	80	1	.....	1-2	75.00
†Boston City Hospital *[4]	Boston	S. C. Wiggin	36,888	11,356[b]	4,114[b]	19	4	.....	1	50.00
Faulkner Hospital *	Boston		3,222	2,039	334	50	1	11/1	1	75.00
Lahey Clinic [4]	Boston	U. H. Eversole	.....	10,000[b]	6,000[b]	..	10	.....	1-3	.....
Massachusetts General Hospital *	Boston	H. K. Beecher	7,227	10,077	.....	54	7	.....	1-3	41.67
Massachusetts Memorial Hospitals *[4]	Boston	J. Arrowood	7,864	9,258	1,194	70	2	9/1	1	50.00
New England Hospital for Women and Children *[4]	Boston	E. Bartlett	4,536	3,521	2,764	35	2	.....	1	.....
†St. Elizabeth Hospital *[4]	Boston	L. P. Zentgraf	6,269	5,170	2,649	21	1	6/1	1	75.00
†Veterans Administration Hospital	Boston	B. Steinberg	4,322	767	144	41	1	11/1	1-2	150.00
†Cambridge City Hospital *	Cambridge, Mass.	J. J. Buskirk	6,539	4,890	2,725	34	1	1/1	1-2	.....
†Mount Auburn Hospital *[4]	Cambridge, Mass.	J. H. Buskirk	6,509	4,542	2,367	45	2	1/1, 7/1	1	50.00
Newton-Wellesley Hospital *[4]	Newton, Mass.	R. S. Hunt	5,608	3,831	2,510	34	1	1/1	1-3	100.00
†Salem Hospital *	Salem, Mass.	R. R. Richardson	5,788	3,702	2,351	32	1	.....	1	50.00
City of Detroit Receiving Hospital *[4]	Detroit	I. B. Taylor	16,816	5,071	1,220	25	2	7/15	1	149.67
Providence Hospital *	Detroit	N. Bittrick	12,873	7,087	4,398	73	2	.....	1	.....
†Butterworth Hospital *[4]	Grand Rapids, Mich.	M. L. Byrd	10,765	6,083	2,053	33	1	7/1	1-2	100.00
University Hospitals *[4]	Minneapolis	R. Knight	8,900	4,168	2,817	75	9	7/1	1-3	100.00
†Veterans Administration Hospital	Minneapolis	J. R. Paine and R. Knight	7,142	3,917	579	47	12	Varies	1-3	275.00
Mayo Foundation	Rochester, Minn.	J. S. Lundy	(See page 1375)				10	.....	1	.....
†Ancker Hospital *	St. Paul	R. Knight	7,072	1,186	621	68	1	.....	1	.....
†Research Hospital *[4]	Kansas City, Mo.	F. Hurwitt	6,913	4,000	2,000	56	2	7/1	1-3	100.00
West Jersey Hospital *	Camden, N. J.	K. S. Russell	6,382	2,864	1,504	32	2	7/1	1	75.00
Jersey City Hospital *	Jersey City, N. J.	W. Gleeson	21,864	9,000	3,000	18	5	Varies	1-2	35.00
Albany Hospital *[4]	Albany, N. Y.	B. Etsten	13,482	6,357	4,760	60	5	7/1	1	41.67
†Beth-El Hospital *[4]	Brooklyn	J. Herzlick	7,028	5,717	1,605	32	2	1/1	1-2	100.00
†Beth Moses Hospital *[4]	Brooklyn	L. Spielberger	4,190	2,041	751	23	1	1/1	1-3	100.00
Jewish Hospital *[4]	Brooklyn	I. M. Pallin	13,396	8,162	2,568	41	6	1/1	3	120.00
†Methodist Hospital *[4]	Brooklyn	R. Waelsch	9,217	9,229	2,504	35	1	7/1	1-2	25.00
Buffalo General Hospital *	Buffalo	C. J. Durshordwe	10,015	6,197	2,563	44	1	7/1	1-3	50.00
Bellevue Hospital, Div. III-N. Y. Univ. *[4]	New York City	E. A. Rovenstine	58,778	18,000	12,000	32	12	1/1, 7/1	2-3	70.00
†Beth Israel Hospital *[4]	New York City	S. G. Hershey	7,822	3,322	1,826	32	2	7/1	1-2	50.00
Flower and Fifth Avenue Hospitals *[4]	New York City	D. E. Brace	9,046	7,610	5,336	27	3	7/1	1	.....
French Hospital *[4]	New York City	S. H. Lesinger	6,605	3,022	2,383	26	1	.....	1	.....
†Goldwater Memorial Hospital *[4]	New York City	E. A. Rovenstine	1,581	292	162	38	2	7/1	1	100.00
Hospital for Joint Diseases *[4]	New York City	B. Rapoport	5,434	3,677	2,287	39	2	9/1	1-3	40.00
†Hospital for Special Surgery [4]	New York City	C. Burstein	2,858	2,199	1,821	55	2	1/1, 7/1	1-2	100.00
Metropolitan Hospital *[4]	New York City	F. E. Fierro	10,430	2,126	1,179	22	5	7/1	1	100.00
†Montefiore Hospital for Chronic Diseases *[4]	New York City	B. Cohen	2,396	.....	.....	51	1	7/1	1-2	50.00
Mount Sinai Hospital *[4]	New York City	B. H. Eliasberg	14,826	7,656	5,628	63	1	1/1, 7/1	1	50.00
†New York Hospital *[4]	New York City	M. Ward	18,899	13,296	6,732	60	1	7/1	1	83.33
New York Polyclinic Medical School and Hospital *	New York City	S. Resnick	8,792	6,105	3,415	26	3	7/1	2	100.00
New York Post-Graduate Medical School and Hospital *[4]	New York City	S. Robertazzi	8,584	4,939	3,694	38	7	Varies	1-2	75.00
Presbyterian Hospital *[4]	New York City	V. Apgar	27,442	16,134	10,844	58	8	.....	2	41.66
St. Luke's Hospital *	New York City	G. E. Burford Jr.	8,349	6,294	3,117	36	3	Varies	1-3	125.00
St. Vincent's Hospital *[4]	New York City	G. Van Gilluwe	12,363	4,673	3,006	42	2	1/1	1-3	50.00
†Sydenham Hospital *	New York City	M. C. Fischman	6,325	1,883	1,211	26	1	7/1	1	100.00
†Rochester General Hospital *[4]	Rochester, N. Y.	S. L. Sahler	11,204	8,141	4,877	72	2	7/1	1-3	60.00
Grasslands Hospital *[4]	Valhalla, N. Y.	H. F. Bishop	3,914	883	456	51	1	7/1	1-3	75.00
†Duke Hospital *[4]	Durham, N. C.	R. Martin	13,049	7,003	5,810	63	4	7/1	2-3	.....
Cincinnati General Hospital *	Cincinnati		14,093	3,401	1,915	36	1	.....	1	.....
Cleveland Clinic Foundation Hospital [4]	Cleveland	D. E. Hale	7,447	8,180	1,660	35	1	7/1	1-3	100.00
†Mount Sinai Hospital *	Cleveland	C. Stein	8,459	6,245	3,563	36	2	7/1	1	100.00
St. Luke's Hospital *	Cleveland	B. B. Sankey	11,224	8,036	3,533	47	2	1/1, 7/1	2	75.00
Starling-Loving University Hospital *[4]	Columbus, Ohio	N. E. Lenahan	7,386	5,034	1,249	66	2	7/1	1-3	50.00
Huron Road Hospital *[4]	East Cleveland, Ohio	R. J. Whitacre	10,528	9,332	3,143	39	4	.....	2	100.00
†Lakewood Hospital *	Lakewood, Ohio	S. Gardner	6,083	5,367	1,360	41	1	7/1	1-2	100.00
†Mansfield General Hospital [4]	Mansfield, Ohio	C. Damron	5,788	2,830	1,673	12	2	1/1, 7/1	1-2	100.00
University Hospitals *[4]	Oklahoma City	A. D. Foster	6,070	3,137	2,585	33	2	7/1	1-2	85.00
University of Oregon Medical School Hospitals and Clinics *[4]	Portland, Ore.	J. H. Hutton	6,198	10,044	2,002	51	3	7/1	2	75.00
†Veterans Administration Hospital	Portland, Ore.	J. H. Hutton	4,710	1,211	282	44	3	10/1	1-2	275.00
†Abington Memorial Hospital *	Abington, Pa.	R. Maio	8,794	5,179	3,053	47	2	7/1	1-2	100.00
†Harrisburg Hospital *[4]	Harrisburg, Pa.	E. F. Toth	10,256	7,075	4,776	31	3	7/1	1-3	100.00
†Conemaugh Valley Memorial Hospital *[4]	Johnstown, Pa.	D. Ritter	9,093	4,151	2,531	20	1	10/1	1	150.00
Hahnemann Hospital *[4]	Philadelphia	H. S. Ruth	10,995	.....	.....	46	2	.....	1	.....
Hosp. of the University of Pennsylvania *[4]	Philadelphia	R. D. Dripps	16,324	13,282	5,700	75	12	1/1, 7/1	1-3	100.00
†Lankenau Hospital *	Philadelphia	F. J. Audin	5,534	5,762	3,697	39	1	7/1	1-3	100.00
†Mount Sinai Hospital *[4]	Philadelphia	A. T. Rose	6,458	3,480	1,441	61	2	6/1, 12/1	1-2	100.00
†Philadelphia General Hospital *[4]	Philadelphia	J. E. Ruben	21,004	3,440	1,242	70	1	Varies	1-3	70.00
Presbyterian Hospital *[4]	Philadelphia	F. P. Haugen	6,380	3,978	2,944	59	1	.....	1-3	50.00
Temple University Hospital *[4]	Philadelphia	C. B. Hickcox	11,561	9,201	4,119	50	3	7/1	3	50.00
†Women's Homoeopathic Hospital *[4]	Philadelphia	E. P. Van Tine	3,782	1,335	1,009	31	1	Varies	1-2	50.00
Reading Hospital *[4]	Reading, Pa.	P. D. Woodbridge	9,936	6,073	3,708	60	3	.....	1	125.00
†Christian H. Buhl Hospital	Sharon, Pa.	M. E. Cushnie	7,531	2,119	1,642	21	2	7/1	1-2	100.00
Rhode Island Hospital *	Providence, R. I.	M. Saklad	10,727	6,653	3,496	75	3	7/1	1-2	50.00
†Baroness Erlanger Hospital *	Chattanooga, Tenn.	H. M. Ausherman	16,002	3,405[b]	2,068[b]	23	1	7/1	1	75.00
†John Gaston Hospital *	Memphis, Tenn.	R. A. Hingson	16,602	4,807	3,027	56	2	4/1 7/1	1-2	30.00
†Veterans Administration Hospital	Memphis, Tenn.	N. H. Rupp	.....	.....	.....	..	10	Quarterly	3	275.00
†Vanderbilt University Hospital *[4]	Nashville, Tenn.	B. H. Robbins	8,145	4,175	3,135	60	3	7/1	1-3	25.00
†Baylor University Hospital *	Dallas, Texas	E. F. Weir	15,376	12,721	9,009	30	1	7/1	2-3	50.00
†Veterans Administration Hospital	Dallas, Texas	E. F. Weir	3,286	783	348	17	2	Varies	2-3	.....
John Sealy Hospital *[4]	Galveston, Texas	H. C. Slocum	8,540	4,011	3,300	62	6	.....	1-3	50.00
†Hermann Hospital *[4]	Houston, Texas	L. F. Schuhmacher Jr.	8,720	3,938	1,387	51	1	7/1	1-3	50.00
†Veterans Administration Hospital	McKinney, Texas	F. A. D. Alexander	.....	.....	.....	..	4	Varies	2	275.00

Numerical and other references will be found on page 1375.

2. ANESTHESIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Total Anesthetics	Inhalation Anesthetics	Autopsy Percentage	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Dr. W. H. Groves Latter-Day Saints Hospital *[4]	Salt Lake City	S. Smith	12,414	6,629	4,520	29	3	7/1	1-3	100.00
†Bishop DeGoesbriand Hospital *[4]	Burlington, Vt.	J. Abajian Jr.	3,691	1,729	951	44	1	.....	1	.....
Mary Fletcher Hospital *[4]	Burlington, Vt.	J. Abajian Jr.	5,411	2,362	771	59	1	7/1	1-3	100.00
State of Wisconsin General Hospital *[4]	Madison, Wis.	R. M. Waters	12,037	4,702	3,976	64	6	7/1	3	25.00
Columbia Hospital *	Milwaukee	G. Shortz	4,398	3,044	2,000	49	1	7/1	3	50.00
†Mt. Sinai Hospital *[4]	Milwaukee	W. S. Phillips	7,315	4,654	2,000	36	1	Varies	2	.....
†Veterans Administration Hospital	Milwaukee	R. Foregger	7,032	2,534	.....	35	4	Varies	2-3	275.00

Hospitals, 131; Assistant Residencies and Residencies, 429

3. CARDIOVASCULAR DISEASE

United States Army.—Residencies available to medical officers, U. S. Army.
†Walter Reed General Hospital *.....Washington, D. C.

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Indiana University Medical Center *[4]	Indianapolis	G. Bond	.....	186	.....	..	2	.....	1	$ 33.33
House of the Good Samaritan [4]	Boston	H. B. Sprague	137	544	5	3	3	7/1	1-3	50.00
Massachusetts General Hospital *	Boston	P. D. White	(Included in Internal Med.)				1	.....	1	.....
Henry Ford Hospital *[4]	Detroit	F. J. Smith	959	11,030	114	42	6	7/1	1-3	200.00
†Hospital of the Woman's Medical College of Pennsylvania *	Philadelphia	W. G. Leaman	.....	500	.....	..	2	7/1	1-2	100.00
Pennsylvania Hospital *	Philadelphia	J. B. VanderVeer	.....	2,339	.....	..	2	1/1	1-3	35.00
†Philadelphia General Hospital *	Philadelphia	T. M. McMillan	903	4,008	526	264	1	7/1	1	70.00
St. Francis Hospital *	Pittsburgh	A. P. D'Zmura	394	(Inc. in Int. Med.)			1	.....	1	100.00
Rhode Island Hospital *	Providence, R. I.	F. T. Fulton	.....	584	.....	..	1	4/1	1	50.00

Hospitals, 9; Assistant Residencies and Residencies, 19

4. CONTAGIOUS DISEASES

United States Navy.—Residencies available to medical officers, U. S. Navy.
U. S. Naval Hospital *.....Great Lakes, Ill.

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Los Angeles County Hospital *[4]	Los Angeles	A. G. Bower	3,442	195	118	3	Varies	1	.....
Children's Hospital *[4]	San Francisco	E. B. Shaw	529	19	11	1	12/1	1-2	$ 50.00
J. J. McCook Memorial Hospitals *[4]	Hartford, Conn.	C. L. Thenebe	722	46	18	1	.....	1	.....
Cook County Hospital *[4]	Chicago	A. L. Hoyne	1,403	91	51	1	Varies	1-3	27.50
Municipal Contagious Disease Hospital [4]	Chicago	A. L. Hoyne	1,922	109	70	6	.....	1	135.50
Sydenham Hospital [4]	Baltimore	H. L. Hodes	1,110	48	30	4	7/1	1	100.00
Boston City Hospital *[4]	Boston	E. H. Place	1,544	11	4	2	.....	1	50.00
Massachusetts Memorial Hospitals *[4]	Boston	C. Wesselhoeft	1,392	83	24	3	1/1, 3/1	1	50.00
Belmont Hospital [4]	Worcester, Mass.	H. J. Hartnett	565	5	3	2	.....	1	155.00
Herman Kiefer Hospital [4]	Detroit	D. C. Young	1,909	85	55	5	7/1	1+	333.00
Kansas City General Hospital No. 1 *	Kansas City, Mo.	C. R. Ferris	527	37	24	1	.....	1	50.00
St. Louis City Hospital *[4]	St. Louis	.....	1,093	109	44	3	7/1	1	141.00
Essex County Hosp. for Contagious Dis.[4]	Belleville, N. J.	E. L. Smith	2,581	41	13	7	1/1, 7/1	1	125.00
Kingston Avenue Hospital [4]	Brooklyn	H. L. Barnes	4,049	59	17	7	7/1	1	130.00
Queens General Hospital *[4]	Jamaica, N. Y.	H. A. Reisman	517	9	7	1	.....	1	70.00
Willard Parker Hospital [4]	New York City	B. W. Hamilton	4,108	42	24	16	Varies	1	130.00
City Hospital *[4]	Cleveland	J. A. Toomey	2,058	86	40	3	7/1	1-4	50.00
Philadelphia Hosp. for Contagious Dis.[4]	Philadelphia	A. C. LaBoccetta	3,709	73	37	4	.....	1+	60.00

Hospitals, 18; Assistant Residencies and Residencies, 70

5. DERMATOLOGY AND SYPHILOLOGY

The following services are approved by the Council and the American Board of Dermatology and Syphilology
(See footnotes 1, 2 and 3 for number of years credit)

United States Army.—Residencies available to medical officers, U. S. Army.
Walter Reed General Hospital *[2].....Washington, D.C.
Brooke General Hospital *[1].....San Antonio, Tex.

United States Navy.—Residencies available to medical officers, U. S. Navy.
U. S. Naval Hospital *[2].....St. Albans, N. Y.
U. S. Naval Hospital *[2].....Philadelphia

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Jefferson and Hillman Hospitals *[2,4]	Birmingham, Ala.	R. Noojin	.....	2,153	....	..	1	7/1	1	$ 30.00
Los Angeles County Hospital *[2,4]	Los Angeles	S. Ayers Jr. and M. E. Obermeyer	846	12,502	14	6	3	Varies	3	157.20
Stanford University Hospitals *[1,4]	San Francisco	O. E. L. Schmidt	83	14,579	....	..	1	7/1	1-2	50.00
University of California Hospital *[3,4]	San Francisco	H. E. Miller	10	6,417	....	..	3	7/1	1	50.00
†Veterans Administration Hospital [1]	Van Nuys, Calif.	M. E. Obermeyer	22	15,946	...	1	1	1/1, 7/1	1-5	275.00
†Veterans Administration Center [1]	W. Los Angeles, Calif.	T. Sternberg	470	24,377	5	5	4	Varies	3	275.00
Colorado General Hospital *[1,4]	Denver	O. S. Philpott	43	640	2	1	1	7/1	1	85.00
Georgetown University Hospital *[2]	Washington, D. C.	F. Eichenlaub	45	1,475	.....	..	2	.....	1-3	.....
†Alto Medical Center [1,22]	Alto, Ga.	C. D. Bowdoin	3,737	.....	....	..	1	.....	1	.....

Numerical and other references will be found on page 1375.

5. DERMATOLOGY AND SYPHILOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated*	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies*	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Chicago Intensive Treatment Center [1,22]	Chicago	H. Bundesen	6,711	26,907	....	..	2	Varies	1+	194.00
†Cook County Hospital ★[2,4]	Chicago	T. Cornbleet	316	9,678	18	3	2	Varies	1-3	27.50
†Michael Reese Hospital ★[1,4]	Chicago	R. H. Rattner	21	5,630	.....	..	1	.....	1-2	25.00
Northwestern Univ. Medical Center ★[3,4]	Chicago	E. A. Oliver	1,258[b]	36,000[b]	....	..	1	.....	1-3	.....
Research and Educational Hospitals ★[3]	Chicago	F. E. Senear	35	9,383	5	..	1	7/1	1-3	55.00
University of Chicago Clinics ★[3]	Chicago	S. Rothman	92	6,239	1	1	4	7/1	1-3	25.00
†Veterans Administration Hospital [2]	Hines, Ill.	E. A. Oliver	100	1,848	4	4	2	1/1	1-3	300.00
†Indianapolis City Hospital ★[3]	Indianapolis	J. R. Brayton	417	15,612	2	..	1	.....	1-3	.....
University Hospitals ★[3,4]	Iowa City	R. Nomland	406	3,010	7	5	2	7/1	1	40.00
†University of Kansas Hospitals ★[1]	Kansas City, Kans.	C. C. Dennie	163	9,569	....	..	2	.....	1	.....
†Louisville General Hospital ★[1]	Louisville, Ky.	A. B. Loveman	.....	6,694	....	..	1	1/1, 7/1	1-3	150.00
Charity Hospital of Louisiana ★[3,4]	New Orleans	.....	302	11,056	5	2	5	7/1	1-3	25.00
Johns Hopkins Hospital ★[1,22]	Baltimore	J. E. Moore	.....	5,735	....	..	3	7/1	1+	.....
†University Hospital ★[2,4]	Baltimore	H. M. Robinson Sr.	.....	14,138	....	..	2	9/1	1-2	None
†Veterans Administration Hospital [2,22]	Fort Howard, Md.	M. Sullivan	.....	.....	....	..	2	Varies	3	275.00
Boston City Hospital ★[2]	Boston	J. G. Downing	147	20,709	3	1	1	.....	1-2	50.00
Massachusetts General Hospital ★[3]	Boston	C. G. Lane	287	15,719	6	4	5	7/1	1-3	41.66
Massachusetts Memorial Hospitals ★[1]	Boston	J. G. Downing and W. L. Fleming	.....	22,176	....	..	1	1/1	1	50.00
University Hospital ★[3,4]	Ann Arbor, Mich.	A. C. Curtis	685	9,238	8	4	7	Varies	1-3	101.40
City of Detroit Receiving Hospital ★[3,4]	Detroit	L. Shaffer	70[b]	4,949[b]	2	2	6	7/15	1	149.66
Minneapolis General Hospital ★[3,4]	Minneapolis	S. E. Sweitzer	291	7,326	5	3	2	.....	1-3	100.00
University Hospitals ★[3,4]	Minneapolis	H. E. Michelson	140	6,003	3	2	1	7/1	1-3	100.00
†Veterans Administration Hospital [3]	Minneapolis	H. E. Michelson	396	.....	2	2	3	Varies	1	303.33
Mayo Foundation [3]	Rochester, Minn.	P. A. O'Leary	(See page 1375)				10	.....	1	.....
Ancker Hospital ★[2]	St. Paul	J. Madden	244	2,995	7	3	1	.....	1-3	.....
†Brookhaven Medical Center [1,22]	Brookhaven, Miss.	J. G. Thompson	7,980	.....	....	..	1	.....	1	.....
Barnard Free Skin and Cancer Hospital [3]	St. Louis	R. Weiss	62	11,236	1	1	4	1/1	1-3	25.00
†St. Mary's Group of Hospitals ★[3]	St. Louis	G. V. Stryker	163	13,182	2	1	2	Varies	1-3	35.00
Kings County Hospital ★[1]	Brooklyn	L. Frank	850	13,239	17	2	2	1/1, 7/1	1-2	70.00
Buffalo General Hospital ★[2]	Buffalo	E. D. Osborne	71	3,520	2	1	2	7/1	1-3	25.00
Edward J. Meyer Memorial Hospital ★[3,4]	Buffalo	E. D. Osborne	604	14,285	5	2	3	7/1	3	100.00
Bellevue Hospital, Div. III-N. Y. Univ. ★[3,4]	New York City	F. C. Combes	5,302	47,896	18	..	10	Varies	3	70.00
Columbia-Presbyterian Medical Center ★[3,4]	New York City	A. B. Cannon	64	43,795	....	..	2	.....	1-3	75.00
†Hospital for Joint Diseases ★[1,4]	New York City	P. Gross	14	3,397	....	..	1	9/1	1	40.00
†Mount Sinai Hospital ★[2,4]	New York City	S. Peck	101	19,475	....	..	1	7/1	1-2	None
New York City Hospital ★[1,4]	New York City	A. B. Cannon	648	7,663	11	6	3	7/1	1	120.00
New York Hospital ★[3,4]	New York City	G. M. Lewis	.....	20,798	....	..	2	.....	1	.....
†New York Polyclinic Medical School and Hospital ★[1]	New York City	A. H. Montgomery	21	7,523	1	..	1	.....	1	.....
New York Post-Graduate Medical School and Hospital ★[3]	New York City	G. M. MacKee	189	114,691	1	1	3	7/1, 9/8	1-2	.....
†Roosevelt Hospital ★[1]	New York City	G. C. Andrews	.....	8,912	....	..	1	7/1	1-3	25.00
†St. Luke's Hospital ★[2]	New York City	L. P. Barker	.....	13,247	....	..	1	Varies	1-2	50.00
†Veterans Administration Hospital [3]	New York City	J. G. Hopkins	320	3,270	....	..	4	7/1	1-3	303.33
Duke Hospital ★[3,4]	Durham, N. C.	J. L. Callaway	255	7,313	....	..	1	7/1	1	83.33
Cincinnati General Hospital ★[3]	Cincinnati	L. Goldman	420	3,364	13	9	2	7/1	1-2	.....
City Hospital ★[2,4]	Cleveland	H. N. Cole	1,073	14,221	2	1	4	7/1	1-4	50.00
Cleveland Clinic Foundation Hospital [1,4]	Cleveland	E. W. Netherton	142	14,267	5	1	3	7/1	1-3	100.00
University Hospitals ★[3,4]	Cleveland	H. N. Cole	324	14,265	8	2	3	7/1	1+	25.00
University of Oregon Medical School Hospitals and Clinics ★[2,4]	Portland, Ore.	L. B. Kingery	32	3,589	....	..	1	7/1	2	75.00
Graduate Hosp. of the Univ. of Penna. ★[3]	Philadelphia	D. M. Pillsbury	632	10,279	....	..	1	7/1	1-2	.....
Hospital of the Univ. of Pennsylvania ★[3,4]	Philadelphia	D. M. Pillsbury	706	21,513	....	..	12	7/1	1-3	.....
Jefferson Medical College Hospital ★[2]	Philadelphia	F. C. Knowles	12	4,417	....	..	1	.....	1	.....
Skin and Cancer Hospital [2,4]	Philadelphia	C. Wright and D. M. Pillsbury	164	45,909	1	..	2	1/1, 7/1	1-2	30.00
University of Pittsburgh Med. Center ★[3,4]	Pittsburgh	W. H. Guy	1,326[b]	5,305[b]	....	..	1	.....	1-5	33.00
†Parkland Hospital ★[1]	Dallas, Texas	B. Shelmire	.....	63,424	....	..	6	Varies	2+	86.00
John Sealy Hospital ★[3,4]	Galveston, Texas	C. N. Frazier	172	16,850	3	3	6	.....	1-3	50.00
University of Virginia Hospital ★[3,4]	Charlottesville, Va.	D. C. Smith	308	12,284	4	2	6	7/1	3-4	31.00
†State of Wisconsin General Hospital ★[1]	Madison, Wis.	S. A. M. Johnson	188	4,379	1	1	3	9/1	1-3	25.00

Hospitals, 66; Assistant Residencies and Residencies, 180

6. GASTROENTEROLOGY

Approval of residencies in Gastroenterology has been authorized by the American Medical Association. Hospitals desiring residency approval in this field should make application to the Council on Medical Education and Hospitals, 535 N. Dearborn Street, Chicago 10, Illinois.

7. GENERAL RESIDENCY

A general residency (also called a "mixed residency") is a general hospital assignment of one or more years after the internship. It usually does not carry credit toward certification by the American Boards in the specialties, but is designed rather to provide additional general training. All approved internship hospitals are also approved for general residencies.

Name of Hospital	Location	Chief of Service	Inpatients Treated*	Deaths	Autopsies	Asst. Res. and Residencies*	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Baptist Hospitals [4]	Birmingham, Ala.	S. D. Motley	7,902	157	38	5	7/1	1	$150.00
St. Vincent's Hospital	Birmingham, Ala.	J. L. Carmichael	5,032	82	24	3	4/1, 7/1	1	200.00
St. Margaret's Hospital	Montgomery, Ala.	J. H. Blue	7,102	288	36	3	7/1	1	.....
St. Mary's Hospital and Sanatorium [16]	Tucson, Ariz.	W. R. Hewitt	5,053	208	42	2	7/1	1	.....
Leo N. Levi Memorial Hospital	Hot Springs, Ark.	D. C. Lee	1,204	49	24	1	6/1	1-2	250.00
Kern General Hospital [4]	Bakersfield, Calif.	R. A. Patrick	10,315	509	209	28	.....	1	.....
Paradise Valley Sanitarium and Hospital	National City, Calif.	H. A. Hall	3,649	116	19	3	.....	1	.....
Monterey County Hospital [4]	Salinas, Calif.	J. C. Sharp	2,205	102	44	4	.....	1	.....
St. Helena Sanitarium and Hospital	Sanitarium, Calif.	G. K. Abbott	4,186	72	18	2	.....	1	.....
Community Hosp. of San Mateo County [4]	San Mateo, Calif.	W. H. Murphy	2,253	190	57	7	7/1	1	200.00
Sonoma County Hospital [4]	Santa Rosa, Calif.	R. L. Zieber	3,614	271	93	7	1/1, 6/1	1	250.00
Boulder-Colorado Sanitarium and Hospital	Boulder, Colo.	R. T. Smith	2,209	55	10	1	.....	1	.....
Memorial Hospital [4]	Colorado Spgs., Colo.	C. E. Richmond	3,115	106	9	2	7/1	1	185.00
St. Francis Hospital and Sanatorium [4]	Colorado Spgs., Colo.	J. J. Mahoney	2,657	168	27	2	2/1	1	150.00

Numerical and other references will be found on page 1375.

7. GENERAL RESIDENCY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated *	Deaths	Autopsies	Asst. Res. and Residencies *	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
St. Mary Hospital	Pueblo, Colo.	C. L. Hooper	3,062	109	12	2	.....	1	.....
Bristol Hospital	Bristol, Conn.	R. A. Richardson	4,625	135	24	2	.....	1	.....
Greenwich Hospital †	Greenwich, Conn.	J. A. Miller	3,258	93	50	4	7/1	1	150.00
Eastern Dispensary and Casualty Hospital	Washington, D. C.	J. R. Young	3,537	190	52	3	.....	1	.....
Riverside Hospital †	Jacksonville, Fla.	T. Z. Cason	1,693	26	11	1	.....	1	.....
Alton Memorial Hospital	Alton, Ill.	C. W. Emons	4,725	129	45	3	.....	1	.....
St. Joseph's Hospital	Alton, Ill.	W. McGinnis	6,127	201	52	5	4/1	1	150.00
MacNeal Memorial Hospital †	Berwyn, Ill.	H. P. Gunnar	6,999	226	77	5	1/1, 7/1	1	.....
St. Francis Hospital	Blue Island, Ill.	F. Lally	4,269	124	33	2	.....	1	225.00
St. James Hospital	Chicago Heights, Ill.	P. Parisi	4,890	153	39	3	7/1	1	150.00
St. Anthony's Hospital	Rock Island, Ill.	R. B. Collins	4,691	229	38	2	Varies	1	.....
Victory Memorial Hospital	Waukegan, Ill.	G. B. Callahan	4,107	143	73	1	.....	1	.....
Clinic Hospital †	Bluffton, Ind.	T. E. Caylor	1,641	61	34	3	1/1, 7/1	1-3	100.00
Lafayette Home Hospital †	Lafayette, Ind.	J. W. Strayer	4,173	120	7	2	.....	1	250.00
St. Luke's Methodist Hospital	Cedar Rapids, Iowa	C. B. Meffert	6,873	250	38	2	4/1, 7/1	1	175.00
Jewish Hospital	Louisville, Ky.	H. C. T. Richmond	3,396	102	35	2	.....	1	.....
E. A. Conway Memorial Hospital †	Monroe, La.	F. C. Bennett	6,075	218	55	6	Varies	1	.....
Long Island Hospital	Boston	R. I. Smith	790	115	9	11	.....	1	208.33
St. Anne's Hospital	Fall River, Mass.	E. E. Hussey	3,364	68	31	3	4/1	1	150.00
Framingham Union Hospital †	Framingham, Mass.	H. Folsom	3,459	108	27	2	4/1	1	75.00
Malden Hospital	Malden, Mass.		5,686	196	87	3	.....	1	.....
Cooley Dickinson Hospital †	Northampton, Mass.	L. N. Durgin	4,730	217	22	4	4/1	1	25.00
Tewksbury State Hospital and Infirmary †	Tewksbury, Mass.	C. W. Houghton	1,032	344	33	4	.....	1	.....
Parkside Hospital	Detroit	R. G. Robinson	1,474	65	4	2	7/1	1	.....
Saratoga General Hospital	Detroit	E. J. Hammer	4,645	74	20	2	6/1	1	200.00
Cottage Hospital †	Grosse Pointe, Mich.	J. W. MacKenzie	2,412	51	19	1	7/1	1	250.00
Mercy Hospital	Muskegon, Mich.	E. S. Thornton	4,236	94	15	2	.....	1	.....
St. Joseph Mercy Hospital †	Pontiac, Mich.	R. E. Olsen	9,907	236	79	6	.....	1	.....
Wyandotte General Hospital †	Wyandotte, Mich.	A. H. Cameron	6,315	161	74	6	Varies	1	.....
Hibbing General Hospital	Hibbing, Minn.	C. S. Raadquist	4,722	106	96	2	.....	1	.....
Eitel Hospital †	Minneapolis	W. R. Jones	4,137	128	38	2	1/1	1	100.00
Fairview Hospital †	Minneapolis	J. C. Giere	9,818	200	60	3	4/1, 7/1	1	200.00
Lutheran Deaconess Home and Hospital	Minneapolis	I. Sivertsen	6,160	162	35	1	6/1	1	175.00
Midway Hospital	St. Paul	G. Earl	5,763	126	42	2	7/1	1	.....
Northern Pacific Beneficial Assn. Hospital	St. Paul	B. I. Derauf	3,534	94	22	2	1/1	1-2	300.00
Alexian Brothers Hospital	St. Louis	N. A. Schneider	2,624	149	57	2	7/1, 12/1	1	200.00
Missouri Pacific Hospital	St. Louis		6,657	164	15	4	.....	1	.....
Douglas County Hospital	Omaha	T. D. Boler	1,949	229	21	3	.....	1	.....
Elliot Hospital †	Manchester, N. H.	G. F. Dwinell	3,440	75	51	3	4/1	1	75.00
Sacred Heart Hospital	Manchester, N. H.	G. L. Bastian	3,035	169	25	2	7/1	1	.....
Auburn City Hospital †	Auburn, N. Y.	R. F. Johnson	6,872	253	60	4	7/1	1	150.00
Jewish Sanitarium and Hospital for Chronic Diseases †	Brooklyn		146	115	21	6	1/1, 7/1	1+	150.00
St. Joseph Hospital	Far Rockaway, N. Y.	A. B. Johnson	2,629	99	19	5	.....	1	.....
Cornell University Infirmary	Ithaca, N. Y.	N. S. Moore	2,535	2	..	4	.....	1	.....
Kingston Hospital †	Kingston, N. Y.	D. S. Meyers	2,999	172	33	2	10/1	1	100.00
Beekman-Downtown Hospital	New York City	R. H. Kennedy	1,933	126	29	2	4/1	1	125.00
Richmond Memorial Hospital †	Staten Island, N. Y.	D. Shepard	1,987	87	13	4	.....	1	.....
Wyoming County Community Hospital	Warsaw, N. Y.	H. S. Martin	2,778	119	22	3	4/1, 7/1	1	75.00
Mercy Hospital	Charlotte, N. C.	O. D. Baxter	7,024	180	30	1	.....	1	.....
Highsmith Hospital †	Fayettesville, N. C.	J. F. Highsmith Jr.	5,043	94	1	4	7/1	1	100.00
Park View Hospital	Rocky Mount, N. C.	E. S. Boice	3,604	135	5	1	Varies	1	100.00
St. John's Hospital	Fargo, N. D.	H. J. Fortin	5,191	175	35	3	.....	1	.....
Glenville Hospital †	Cleveland	J. P. Anderson	4,546	130	42	2	7/1	1	175.00
Grace Hospital	Cleveland	A. E. Biddinger	2,305	29	13	2	.....	1	200.00
Woman's Hospital †	Cleveland	N. L. Zinner	4,108	88	29	5	7/1	1	125.00
Fort Hamilton Hospital †	Hamilton, Ohio	C. Keller	2,844	84	39	2	7/1	1	.....
Mansfield General Hospital	Mansfield, Ohio	L. D. Bonar	5,788	199	23	2	6/1	1	.....
Doctors Hospital †	Philadelphia	A. P. Keegan	3,808	100	33	4	6/1	1	125.00
Madison Rural Sanitarium and Hospital †	Madison Coll., Tenn.	O. Jones	2,531	79	14	2	7/1	1	125.00
Medical Arts Hospital	Dallas, Texas	R. E. Van Duzen	5,260	91	16	2	.....	1	.....
All Saints Hospital †	Fort Worth, Texas	J. H. Grammer	4,725	138	27	3	4/1	1	150.00
St. Mary's Infirmary	Galveston, Texas	B. R. Parrish	4,776	133	28	2	.....	1	.....
Elizabeth Buxton Hospital	Newport News, Va.	P. Hogg	6,554	157	69	2	.....	1	200.00
Riverside Hospital	Newport News, Va.	S. H. Mirmelstein	4,980	152	39	3	.....	1	.....
Maryview Hospital	Portsmouth, Va.	V. J. Meads	3,089	97	28	2	.....	1	.....
Grace Hospital	Richmond, Va.	A. L. Herring	4,382	105	14	2	Varies	1	.....
Retreat for the Sick †	Richmond, Va.	W. R. Jordan	4,272	75	37	3	7/1	1	100.00
St. Elizabeth's Hospital	Richmond, Va.	G. W. Horsley	1,774	34	25	2	7/1	1-2	100.00
St. Luke's Hospital	Richmond, Va.	L. Tabb	2,787	84	30	1	.....	1	.....
Sheltering Arms Hospital †	Richmond, Va.	W. Bickers	1,126	47	18	1	5/1	1	100.00
Maynard Hospital	Seattle	J. Duncan	3,087	124	86	2	4/1	1	200.00
St. Joseph Hospital	Vancouver, Wash.	J. C. Brougher	4,934	99	21	2	.....	1	.....
McMillan Hospital	Charleston, W. Va.	W. O. McMillan	4,140	43	11	2	4/1	1	200.00
St. Francis Hospital †	Charleston, W. Va.	C. B. Smith	5,021	115	17	4	.....	1	150.00
St. Mary's Hospital	Clarksburg, W. Va.	H. V. Thomas	5,602	87	39	3	1/1	1	150.00
Fairmont General Hospital	Fairmont, W. Va.	G. H. Traugh	5,113	88	26	4	.....	1	.....
Camden-Clark Memorial Hospital †	Parkersburg, W. Va.	C. L. Goodhand	4,798	194	67	4	4/1, 7/1	1-2	100.00
Mercy Hospital	Janesville, Wis.	W. H. McGuire	3,598	149	28	2	.....	1	.....
La Crosse Lutheran Hospital †	La Crosse, Wis.	J. Harmon	4,524	137	58	1	.....	1	.....
St. Mary's Hospital †	Superior, Wis.	G. J. Hathaway	3,410	219	31	1	Varies	1	.....

Hospitals, 94; Assistant Residencies and Residencies, 296

8. INTERNAL MEDICINE

The following services are approved by the Council and the American Board of Internal Medicine

United States Army.—Residencies available to medical officers, U. S. Army.

†Letterman General Hospital *.....San Francisco
Fitzsimons General Hospital *.....Denver
†Walter Reed General Hospital *.....Washington, D. C.
†Oliver General Hospital *.....Augusta, Ga.
†Wm. Beaumont General Hospital *.....El Paso, Texas
†Brooke General Hospital *.....San Antonio, Texas
†Madigan General Hospital *.....Fort Lewis, Wash.

United States Navy.—Residencies available to medical officers, U. S. Navy.

†U. S. Naval Hospital *.....Long Beach, Calif.
†U. S. Naval Hospital *.....Oakland, Calif.
†U. S. Naval Hospital *.....San Diego, Calif.
U. S. Naval Hospital *.....Bethesda, Md.
U. S. Naval Hospital *.....Philadelphia

Numerical and other references will be found on page 1375.

8. INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning (Month) Stipend
Jefferson and Hillman Hospitals	Birmingham, Ala.	J. S. McLester	3,733	12,012	411	128	6	7/1	1	$ 30.00
Norwood Hospital	Birmingham, Ala.	E. D. Linebury	1,972	4,455	68	42	2	.....	3	100.00
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company	Fairfield, Ala.	W. W. Compton	1,691	21,917	138	47	3	7/1	1-3	200.00
†St. Joseph's Hospital	Phoenix, Ariz.	R. S. Flinn	2,135	.....	129	47	1	7/1	1-2	150.00
Baptist State Hospital	Little Rock, Ark.	S. T. W. Cull	2,481	.....	148	29	2	.....	1	.....
†San Joaquin General Hospital	French Camp, Calif.	G. K. Wever	4,015	8,530	444	211	2	7/1	1-3	200.00
General Hospital of Fresno County	Fresno, Calif.	W. E. R. Schottstaedt	1,577	5,739	269	58	1	7/1	1-2	205.00
†Seaside Memorial Hospital	Long Beach, Calif.	J. E. Walker	3,404	.....	218	26	3	1/1, 7/1	1-3	150.00
†California Hospital	Los Angeles	H. D. Van Fleet	1,989	10,511	240	112	3	7/1	2	100.00
Cedars of Lebanon Hospital	Los Angeles	M. Nathanson	2,803	27,044	271	110	2	7/1	1	100.00
†Hospital of the Good Samaritan	Los Angeles	L. S. Chapman	2,601	6,768	215	75	3	7/1	1-3	200.00
Los Angeles County Hospital	Los Angeles	D. W. Griggs	18,106	52,747	2,696	833	18	Varies	3	157.20
†St. Vincent's Hospital	Los Angeles	J. C. Ruddock	926	.....	47	28	1	7/1	1	.....
White Memorial Hospital	Los Angeles	D. D. Comstock	1,508	26,396	....	..	5	.....	1-3	135.00
Highland-Alameda County Hospital	Oakland, Calif.	H. G. MacLean	2,170	.....	474	177	4	7/1	1-3	135.00
†Permanente Foundation Hospital	Oakland, Calif.	M. F. Collen	2,317	32,754	96	72	4	7/1	1-3	125.00
†Samuel Merritt Hospital	Oakland, Calif.	F. Taylor	989	.....	74	30	1	1/1	1	110.00
†Veterans Administration Hospital	Oakland, Calif.	M. L. Stephenson	952	.....	46	33	9	1/1, 7/1	1-3	345.75
Collis P. and Howard Huntington Memorial Hospital	Pasadena, Calif.	M. B. Corlette	2,531	.....	261	..	2	7/1	1	85.00
San Diego County General Hospital	San Diego, Calif.	C. L. Stealy	4,078	8,794	465	124	2	7/1	1	187.00
Children's Hospital	San Francisco	D. Atkinson	226	1,786	17	9	1	7/1	1-2	50.00
Franklin Hospital	San Francisco	H. C. Shepardson	1,287	.....	87	21	2	7/1	1	100.00
†French Hospital	San Francisco	D. L. Wilbur	3,059	.....	....	..	2	7/1	1	150.00
Mount Zion Hospital	San Francisco	A. L. Cohn and J. J. Sampson	987	3,917	151	87	3	7/1	1	75.00
St. Luke's Hospital	San Francisco	E. L. Bruck	2,165[b]	1,102[b]	....	..	2	7/1	1	90.00
†St. Mary's Hospital	San Francisco	J. J. McGinnis	1,369	.....	122	25	3	7/15	1	100.00
San Francisco Hospital	San Francisco	L. H. Briggs	3,419	.....	920	169	7	.....	1	175.00
†Southern Pacific General Hospital	San Francisco	R. E. Allen	1,721	21,780	45	26	2	7/1	1-3	125.00
Stanford University Hospitals	San Francisco	A. L. Bloomfield	1,937	19,644	142	52	15	7/1	1	50.00
U. S. Marine Hospital	San Francisco	R. K. Maddock	1,620	26,108	113	70	2	.....	2-4	176.66
University of California Hospital	San Francisco	W. J. Kerr	1,747	26,031	92	55	20	7/1	1	50.00
†Veterans Administration Hospital	San Francisco	G. E. Hein	.....	.....	.....	..	18	7/1	1-3	275.00
Santa Clara County Hospital	San Jose, Calif.	P. Morton	.....	.....	....	..	2	.....	1	.....
Fairmont Hospital of Alameda County	San Leandro, Calif.	E. G. MacLean	1,547	6,284	352	158	4	7/1	1-3	105.00
†Santa Barbara Cottage Hospital	Santa Barbara, Calif.	A. F. Koehler	2,199	.....	79	34	2	7/1	1	100.00
†Veterans Administration Hospital	Van Nuys, Calif.	G. M. Leiby	814	23,961	18	17	41	1/1, 7/1	1-5	275.00
†Veterans Administration Hospital	W. Los Angeles, Calif.	R. O. Egeberg	1,726	179,374	274	110	43	7/1	1-3	275.00
Colorado General Hospital	Denver	J. J. Waring	943	8,836	156	124	6	1/1	1-3	85.00
Denver General Hospital	Denver	M. Katzman	2,160	1,795	630	137	2	7/1	1	50.00
†Corwin Hospital	Pueblo, Colo.	R. H. Finney	1,779	46,384	110	55	1	7/1	1	75.00
†Hartford Hospital	Hartford, Conn.	J. W. Hutchison	3,139	3,122	304	120	5	7/1	1-3	50.00
Grace-New Haven Community Hospital Grace Unit	New Haven, Conn.	S. J. Goldberg	1,205	.....	150	..	3	7/1	3	40.00
New Haven Unit	New Haven, Conn.	F. G. Blake	2,524	21,859	....	..	7	7/1	1	40.00
†Hospital of St. Raphael	New Haven, Conn.	T. Evans and L. Nahum	1,263	500	183	43	2	7/1	1	75.00
†Veterans Administration Hospital	Newington, Conn.	P. Kunkel	1,203	.....	48	20	12	7/1	1-3	275.00
†Lawrence and Memorial Associated Hospitals	New London, Conn.	A. Labensky	890	.....	19	12	1	Varies	1	.....
†Delaware Hospital	Wilmington, Del.	L. B. Flinn	1,471	2,080	64	43	3	3/1	1	125.00
Memorial Hospital	Wilmington, Del.	L. B. Flinn	1,007	396	92	34	1	.....	1	.....
Central Dispensary and Emergency Hospital	Washington, D. C.	J. Minor	1,600	2,159	161	66	2	7/1	1	50.00
Freedmen's Hospital	Washington, D. C.	J. B. Johnson	886	7,532	183	56	9	7/1	1-3	75.00
Gallinger Municipal Hospital	Washington, D. C.	H. Jeghers	2,637	514	511	226	14	7/1	1-3	75.00
Garfield Memorial Hospital	Washington, D. C.	B. F. Weems	1,626	1,867	....	..	3	.....	1	150.00
Georgetown University Hospital	Washington, D. C.	H. Jeghers	1,423	5,347	63	28	4	7/1	1-2	25.00
George Washington University Hospital	Washington, D. C.	P. F. Dickens	588	2,897	30	16	4	.....	1	.....
†Providence Hospital	Washington, D. C.	H. R. Schreiber	2,150	.....	125	46	3	7/1	3	75.00
†Veterans Administration Hospital	Washington, D. C.	T. McP. Brown	471	12,253	93	51	6	1/1	1-3	275.00
Duval County Hospital	Jacksonville, Fla.	L. Limbaugh	680	.....	124	60	3	.....	1	.....
†Riverside Hospital	Jacksonville, Fla.	T. Z. Cason	804	7,395	43	6	1	10/1	1	150.00
James M. Jackson Memorial Hospital	Miami, Fla.	.....	4,078	6,787	505	163	3	7/1	1	95.50
Grady Memorial Hospital	Atlanta, Ga.	P. B. Beeson	2,175	48,692	420	199	11	7/1	1	30.00
†Piedmont Hospital	Atlanta, Ga.	J. E. Paullin	912	.....	21	12	1	7/1	1-2	75.00
St. Joseph Infirmary	Atlanta, Ga.	J. H. Hines	1,070	1,020	69	20	2	1/1	1-3	115.00
University Hospital	Augusta, Ga.	V. P. Sydenstricker	2,067	3,662	244	64	6	7/1	1-3	40.00
†Veterans Administration Hospital	Chamblee, Ga.	.....	.....	.....	.....	.....	12	7/1	1-3	275.00
Emory University Hospital	Emory University, Ga.	R. H. Wood	13,369	18,078	3,923	569	16	Varies	1-3	27.50
†Alexian Brothers Hospital	Chicago	I. F. Volini	1,563	.....	180	75	4	7/1	1-3	100.00
†American Hospital	Chicago	O. Porges	997	10,237	135	..	1	7/1	1-2	50.00
†Augustana Hospital	Chicago	C. A. Hedberg	1,973	.....	135	42	1	7/1	1	50.00
Cook County Hospital	Chicago	C. Maher	13,360	18,078	3,923	569	16	Varies	1-3	27.50
†Henrotin Hospital	Chicago	F. K. Hick	631	299	43	19	1	7/1	1	100.00
Illinois Masonic Hospital	Chicago	R. Hayes	1,290	.....	255	66	2	.....	1	.....
Mercy Hospital-Loyola University Clinics	Chicago	G. O'Brien	1,875	5,018	139	32	2	7/1	1-2	25.00
Michael Reese Hospital	Chicago	M. W. Lev	4,823	16,012	.....	..	10	.....	1-3	25.00
Mount Sinai Hospital	Chicago	.....	1,895	12,520	168	50	3	7/1	1	50.00
Norwegian-American Hospital	Chicago	A. E. Lehner	1,187	.....	127	33	1	11/1	1	25.00
Passavant Memorial Hospital	Chicago	W. H. Nadler	1,146	1,721	58	30	4	.....	1	None
Presbyterian Hospital	Chicago	R. C. Brown	3,537	15,901	149	87	8	1/1	1-3	25.00
Provident Hospital	Chicago	A. F. Connor	680	6,367	105	17	1	.....	1	.....
Research and Educational Hospitals	Chicago	R. W. Keeton	554	9,304	55	..	4	7/1	1-3	55.00
St. Joseph's Hospital	Chicago	L. E. Hines	2,015	.....	127	44	2	.....	1	.....
St. Luke's Hospital	Chicago	R. W. Keeton	3,328	7,559	221	116	11	7/1	1-3	25.00
University of Chicago Clinics	Chicago	L. L. Coggeshall	1,831	41,594	107	80	8	7/1	1-3	25.00
Wesley Memorial Hospital	Chicago	P. S. Rhoads	2,449	.....	124	70	6	1/1, 7/1	1-3	25.00
†Woodlawn Hospital	Chicago	W. E. Gouwens	1,257	.....	65	20	1	7/1	1	.....
Evanston Hospital	Evanston, Ill.	L. D. Snorf	2,446	10,434	154	133	3	.....	3	50.00
St. Francis Hospital	Evanston, Ill.	R. M. Jones	2,278	.....	225	64	2	Varies	1	75.00
†Veterans Administration Hospital	Hines, Ill.	L. A. Baker	6,538	.....	311	170	43	Varies	1-3	275.00
St. Francis Hospital	Peoria, Ill.	G. M. Parker	2,452	15,052	227	61	2	6/1, 11/1	1-2	150.00
Indianapolis City Hospital	Indianapolis	C. J. Clark	2,287	23,372	429	188	9	.....	1-3	.....
Indiana University Medical Center	Indianapolis	J. O. Ritchey	2,078	12,343	201	111	7	.....	1	33.33
†Methodist Hospital	Indianapolis	R. Moser	3,285	.....	240	74	3	7/1	1-2	200.00
Iowa Methodist Hospital	Des Moines, Iowa	J. T. Strawn	779	719	170	115	3	Varies	1-3	125.00
University Hospitals	Iowa City	W. M. Powler	2,803	3,743	160	87	8	7/1	1	40.00
University of Kansas Hospitals	Kansas City, Kan.	R. H. Major	1,750	13,821	138	81	5	.....	1-3	.....

Numerical and other references will be found on page 1375.

8. INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†St. Francis Hospital *	Wichita, Kan.	F. J. McEwen	5,036	.....	188	66	4	7/1	1	100.00
Wesley Hospital *[4]	Wichita, Kan.	G. F. Corrigan	3,107	.....	169	44	1	9/1	1-3	150.00
Louisville General Hospital *	Louisville, Ky.	J. W. Moore	1,877	24,535	384	105	12	4/1	1-4	45.00
†St. Joseph Infirmary *	Louisville, Ky.	O. O. Miller	4,815	1,986	180	58	3	7/1	1-3	75.00
†Veterans Administration Hospital	Louisville, Ky.	J. R. Gott Jr.	.....	.....	....	..	20	7/1	1-3	275.00
Charity Hospital of Louisiana *	New Orleans		6,087	35,307	456	263	25	7/1	1-3	25.00
Tuoro Infirmary *	New Orleans	S. B. Nadler	3,957	5,723	174	79	4	7/1	1	17.50
†Shreveport Charity Hospital *[4]	Shreveport, La.	M. D. Hargrove	1,912	8,564	213	125	5	7/1	1-3	60.00
†Maine General Hospital *	Portland, Me.	E. H. Drake	1,140	499	151	46	2	.....	1+	50.00
Baltimore City Hospitals *[4]	Baltimore	C. H. Boyd	1,919	.....	403	203	7	7/1	1	35.00
Church Home and Hospital *[4]	Baltimore	Z. R. Morgan	532	629	48	16	1	7/1	1	50.00
Franklin Square Hospital *[4]	Baltimore	W. H. Smith	436	894	60	13	2	.....	1	.....
Hospital for Women *[4]	Baltimore	W. Fort	530	4,024	36	18	2	7/1	1	85.00
Johns Hopkins Hospital *[4]	Baltimore	A. M. Harvey	3,461	53,955	229	141	12	7/1	1-8	.....
Maryland General Hospital *[4]	Baltimore	J. E. Legge	726	261	141	14	2	7/1	1-3	75.00
Mercy Hospital *	Baltimore	H. R. Peters	1,036	.....	106	22	4	7/1	1	50.00
Provident Hospital and Free Dispensary *[4]	Baltimore	E. B. Jarrett	894	.....	....	..	2	.....	1	.....
St. Agnes' Hospital *	Baltimore	L. P. Gundry	949	188	99	24	2	.....	1	.....
St. Joseph's Hospital *	Baltimore	F. J. Geraghty	1,007	1,072	118	38	3	7/1	2-3	50.00
Sinai Hospital *[4]	Baltimore	M. Sherry	1,440	5,232	167	87	5	7/1	1	35.00
South Baltimore General Hospital *[4]	Baltimore	G. McLean	523	1,887	56	19	2	.....	1	.....
Union Memorial Hospital *	Baltimore	W. A. Baetjer	1,555[b]	2,940[b]	....	..	6	7/1	1	.....
U. S. Marine Hospital *	Baltimore	L. L. Terry	2,479	4,449	56	31	5	7/1	1-3	184.16
University Hospital *[4]	Baltimore	M. C. Pincoffs	1,784	4,544	199	109	5	7/1	1-2	75.00
West Baltimore General Hospital *[4]	Baltimore	L. A. M. Krause	879	949	108	..	2	.....	1	.....
†Veterans Administration Hospital [4]	Fort Howard, Md.	P. Padgett	3,351	.....	173	34	12	Varies	3	275.00
†Beverly Hospital *	Beverly, Mass.	A. E. Parkhurst	1,589	3,154	90	59	1	.....	1-2	100.00
Beth Israel Hospital *	Boston	H. L. Blumgart	1,748	11,045	160	88	4	4/1	1	41.66
Boston City Hospital *[4]	Boston	W. R. Ohler	11,947	33,915	2,388	395	21	.....	1-2	50.00
†Carney Hospital *[4]	Boston	N. A. Welch	555	1,787	93	31	1	7/1	1	50.00
Joseph H. Pratt Diagnostic Hospital [4]	Boston	S. Proger	3,497	2,963	....	..	6	.....	1	83.33
Lahey Clinic [4]	Boston	L. M. Hurxthal	2,500[b]	50,000[b]	....	..	20	.....	1-2	.....
Massachusetts General Hospital *[4]	Boston	J. H. Means	3,211	21,423	185	113	47	7/1	1-3	41.66
Massachusetts Memorial Hospital *	Boston	C. S. Keefer	1,294	4,506	67	45	12	Varies	1	50.00
†New England Deaconess Hospital [4]	Boston	H. F. Root	1,895[b]	.....	....	..	4	.....	1-2	.....
Peter Bent Brigham Hospital *[4]	Boston	G. W. Thorn	2,015	26,300	195	143	7	Varies	1	.....
†Veterans Admin. Hospital, W. Roxbury	Boston	T. A. Warthin	401	49	16	7	10	7/1	1-3	275.00
†Mount Auburn Hospital *[4]	Cambridge, Mass.	J. H. Townsend	1,034	3,105	145	59	1	7/1	1	75.00
†Veterans Administration Hospital	Framingham, Mass.	M. B. Strauss	.....	.....	.....	..	14	Varies	1-3	275.00
†Malden Hospital	Malden, Mass.	E. G. Thorp	1,728	.....	166	36	1	7/1	1-3	50.00
†Cooley Dickinson Hospital	Northampton, Mass.	J. E. Hayes	1,169	1,357	158	3	2	7/1, 10/1	1	.....
†Salem Hospital *	Salem, Mass.	S. N. Gardner	1,341	244	170	..	1	7/1	1	50.00
†Memorial Hospital *[4]	Worcester, Mass.	O. H. Stansfield	1,273	852	91	18	1	.....	1-2	100.00
†St. Vincent Hospital *	Worcester, Mass.	J. J. Dumphy	2,003	.....	178	29	2	7/1	1-2	75.00
Worcester City Hospital *	Worcester, Mass.	G. W. Haigh	1,808	3,953	324	97	2	.....	1	50.00
†St. Joseph's Mercy Hospital *[4]	Ann Arbor, Mich.	H. H. Riecker	1,196	39,978	109	31	2	7/1	1-3	125 00
University Hospital *[4]	Ann Arbor, Mich.	C. C. Sturgis	2,633	15,630	223	112	16	7/1	1	101.40
†Veterans Administration Hospital	Dearborn, Mich.	H. J. Kullman	2,352	200	224	47	11	7/1	2-3	275.00
Alexander Blain Hospital	Detroit	H. L. Woodburne and L. E. Herviver	525	13,922	28	13	2	.....	1	.....
City of Detroit Receiving Hospital *[4]	Detroit	G. B. Myers	3,644	21,766	748	283	19	7/15	1+	149.66
Grace Hospital *[4]	Detroit	L. T. Colvin	2,924	7,299	241	54	6	7/1	1-3	75.00
Harper Hospital *[4]	Detroit	R. C. Moehlig	2,695[b]	.....	....	..	11	.....	1	113.00
Henry Ford Hospital *[4]	Detroit	F. J. Sladen	5,621	109,860	227	88	50	7/1	1-5	200.00
Mount Carmel Mercy Hospital *	Detroit	H. L. Smith	2,332	.....	270	69	2	7/1	1-4	100.00
Providence Hospital *	Detroit	R. Weyher	2,073	.....	270	152	1	.....	1	.....
St. Mary's Hospital *	Detroit	W. J. Wilson Sr.	1,884	3,751	191	18	3	.....	3	140.00
Woman's Hospital *[4]	Detroit	B. I. Johnstone	.....	.....	....	..	1	7/1	1-4	100.00
Wayne County General Hospital and Infirmary *[4]	Eloise, Mich.	M. R. McQuiggan	10,072	30,739	777	226	11	7/1	1	197.50
Hurley Hospital *	Flint, Mich.	M. S. Chambers	2,744	.....	337	84	2	7/1	1	.....
Blodgett Memorial Hospital *[4]	Grand Rapids, Mich.	C. Beeman	897	.....	67	32	3	10/1	1-3	175.00
Butterworth Hospital *[4]	Grand Rapids, Mich.	C. V. Crane	1,921	.....	204	70	2	7/1	1-3	100.00
†Saginaw General Hospital *	Saginaw, Mich.	S. Yntema	1,820	.....	140	41	1	7/1	1-3	75.00
St. Mary's Hospital *	Duluth, Minn.	R. Bardon	1,579	.....	123	81	1	7/1	1	75.00
Minneapolis General Hospital *[4]	Minneapolis	G. Fahr	2,477	7,719	397	168	8	1/1, 7/1	1-3	100.00
†Northwestern Hospital *[4]	Minneapolis	A. E. Cardie	2,006	.....	127	51	1	7/1	1	150.00
University Hospitals *[4]	Minneapolis	C. J. Watson	1,116	22,637	132	96	14	7/1	1-3	100.00
Veterans Administration Hospital	Minneapolis	R. V. Ebert	2,021	2,536	127	65	28	2/1, 7/1	1	275.00
Mayo Foundation	Rochester, Minn.	R. M. Wilder	(See page 1375)				120	.....	1	.....
Ancker Hospital *	St. Paul	A. Hoff	1,608	10,704	265	175	6	4/1	1	91.50
Charles T. Miller Hospital *	St. Paul	E. T. F. Richards and C. N. Hensel	2,094	8,378	....	..	3	1/1	1-3	100.00
St. Louis County Hospital *	Clayton, Mo.	R. O. Muether	951	10,925	191	70	4	7/1	1-3	60.00
Kansas City General Hospital No. 1 *	Kansas City, Mo.	D. A. Williams	2,554	17,534	441	247	5	7/1	2-3	50.00
†Menorah Hospital *[4]	Kansas City, Mo.	A. Sophian	1,448	.....	177	51	1	7/1	1	200.00
Research Hospital *[4]	Kansas City, Mo.	R. C. Davis	1,828	.....	110	59	2	9/1	3	.....
St. Joseph Hospital *	Kansas City, Mo.	W. M. Ketcham	.....	.....	....	..	1	.....	1-3	75.00
St. Mary's Hospital *[4]	Kansas City, Mo.	H. M. Parker	1,289	.....	110	72	1	7/1	1	.....
Barnes Hospital *[4]	St. Louis	W. B. Wood	4,156	19,241	211	152	20	7/1	1-3	25.00
De Paul Hospital *	St. Louis	E. P. Buddy	1,404	548	184	45	2	7/1	1-2	.....
Homer G. Phillips Hospital *[4]	St. Louis	H. Bulger	2,407	7,645	518	91	5	7/1	1	50.00
Jewish Hospital *[4]	St. Louis	L. Sale	3,103	.....	204	61	4	.....	1+	50.00
Missouri Baptist Hospital *	St. Louis	S. B. Grant	2,003	.....	....	..	4	7/1	1-3	70.00
St. Anthony's Hospital *	St. Louis	R. V. Powell	1,353	.....	92	..	1	3/1	1	50.00
St. John's Hospital *	St. Louis	C. H. Neilson	1,942	3,861	176	52	3	7/1	1-2	50.00
St. Louis City Hospital *[4]	St. Louis		4,490	6,537	884	348	13	7/1	1	86.00
St. Luke's Hospital *	St. Louis	D. M. Skilling	955	.....	....	..	1	7/1	1	75.00
St. Mary's Group of Hospitals *	St. Louis	R. A. Kinsella	2,830	35,269	197	81	8	Varies	3	35.00
Creighton Memorial St. Joseph's Hosp.*[4]	Omaha	A. Sachs	4,622	7,895	255	88	1	7/1	1-2	100.00
†Nebraska Methodist Hospital *[4]	Omaha	R. W. Bliss	1,072	1,439	66	29	1	7/1	1+	75.00
†University of Nebraska Hospital *	Omaha		229	1,991	16	16	6	1/1	1-3	75.00
†Mary Hitchcock Memorial Hospital *	Hanover, N. H.	N. T. Milliken	1,172	29,541	127	108	3	7/1	..	175.00
†Atlantic City Hospital *	Atlantic City, N. J.	D. W. Seanlon	2,002	8,249	312	67	1	7/1	1	None
†Hackensack Hospital *[4]	Hackensack, N. J.	L. W. Black	.....	2,774	129	43	1	7/1	1	100.00
Jersey City Hospital *[4]	Jersey City, N. J.	T. J. White	4,992	22,938	687	106	5	Varies	1	35.00
†Newark Beth Israel Hospital *	Newark, N. J.		1,456	2,008	219	60	1	.....	1	.....
†St. Francis Hospital *	Trenton, N. J.		2,190	.....	320	80	1	.....	1	100.00
Albany Hospital *[4]	Albany, N. Y.	L. W. Gorham	1,940	.....	215	113	5	7/1	1	41.67
†Binghamton City Hospital *	Binghamton, N. Y.	I. Ershler	2,949	.....	304	66	1	Varies	1	100.00

Numerical and other references will be found on page 1375.

8. INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Veterans Administration Hospital	Batavia, N. Y.	F. F. Kenny	731	.....	44	18	6	7/1	1-3	275.00
†Beth-El Hospital *	Brooklyn	M. Dattelbaum	759	9,609	110	27	2	7/1	1-2	100.00
Brooklyn Hospital *[4]	Brooklyn	E. P. Maynard Jr.	1,722	16,510	150	44	3	7/1	1-2	25.00
Coney Island Hospital *[4]	Brooklyn	T. L. Longo	1,438	31,197	307	32	3	7/1	1	70.00
Cumberland Hospital *[4]	Brooklyn	J. J. Guttman	2,124	21,016	338	68	2	7/1	1	70.00
Greenpoint Hospital *[4]	Brooklyn	A. Klein	1,097	11,426	216	36	3	1/1	1	120.00
Jewish Hospital *[4]	Brooklyn		1,455	22,644	160	57	3	10/1	1	30.00
Kings County Hospital *	Brooklyn	H. Feinblatt and W. Dock	17,697	20,275	2,808	353	11	7/1	1-2	70.00
Long Island College Hospital *[4]	Brooklyn	J. H. Crawford	1,706	11,898	130	40	5	7/1	1-2	25.00
†Methodist Hospital *	Brooklyn	A. T. Mays	1,322	6,783	156	44	5	.....	1	.....
Norwegian Lutheran Deaconesses' Home and Hospital *[4]	Brooklyn		.....	.....	.....	..	1	.....	1	.....
Buffalo General Hospital *[4]	Buffalo	J. H. Talbott	2,183	17,341	215	82	7	7/1	1-2	25.00
†Deaconess Hospital *	Buffalo		1,971	.....	220	64	6	7/1	1-3	60.00
Edward J. Meyer Memorial Hospital *[4]	Buffalo	D. K. Miller	3,450	8,574	467	185	13	7/1	1-4	100.00
Millard Fillmore Hospital *	Buffalo	J. F. Painton	1,366	.....	154	40	4	.....	1-4	50.00
†Clifton Springs Sanitarium and Clinic [4]	Clifton Springs, N. Y.	B. A. Watson	1,445	1,055	16	10	2	7/1	1-3	50.00
Mary Imogene Bassett Hospital *[4]	Cooperstown, N. Y.	G. M. MacKenzie	734	4,037	55	32	3	7/1	1-2	83.33
Meadowbrook Hospital *[4]	Hempstead, N. Y.	E. C. Jessup and B. R. Allison	979	.....	136	60	2	4/1	1	115.00
Queens General Hospital *[4]	Jamaica, N. Y.	A. W. Victor	4,178	11,672	863	330	6	.....	1-3	70.00
Charles S. Wilson Memorial Hospital *[4]	Johnson City, N. Y.	J. Zillhardt	2,372	.....	239	61	1	7/1	1-3	200.00
†Mount Vernon Hospital *	Mount Vernon, N. Y.	P. Reznikoff	1,527	412	176	46	2	7/1	1	.....
New Rochelle Hospital *	New Rochelle, N. Y.	C. A. Read	1,736	1,577	185	45	1	7/1	1-3	100.00
Bellevue Hospital, Div. I—Columbia U.*[4]	New York City	D. W. Richards Jr.	2,840	14,500	291	81	5	7/1	1	70.00
Bellevue Hospital, Div. II—Cornell U.*[4]	New York City	J. E. Deitrick	2,730	21,000	232	71	4	7/1	1	70.00
Bellevue Hospital, Div. III—N. Y. Univ.*[4]	New York City	W. S. Tillett	3,200	18,124	290	127	11	7/1	1	70.00
Bellevue Hospital, Div. IV—Open Div.*[4]	New York City	C. H. Nammack	2,458	17,839	248	72	4	7/1	1	70.00
†Beth Israel Hospital *[4]	New York City	J. J. Hertz	1,091	25,046	103	27	6	7/1	1-3	50.00
Bronx Hospital *[4]	New York City	H. Wessler	1,498	4,511	124	24	3	7/1	1-3	75.00
†Doctors Hospital [4]	New York City		6,342	.....	181	95	1	1/1, 7/1	1-2	200.00
Lower and Fifth Avenue Hospitals *[4]	New York City	L. J. Boyd	951	7,442	89	17	3	7/1	1	.....
Fordham Hospital *[4]	New York City	J. J. McGowan	.....	.....	....	..	4	7/1	1	70.00
Goldwater Memorial Hospital *[4]	New York City	M. Steele and R. D. Beck	1,972	1,532	325	132	24	7/1	1	50.00
Gouverneur Hospital *[4]	New York City	S. N. Weber	1,299	36,391	321	38	5	.....	1	70.00
Harlem Hospital *[4]	New York City	O. LaRotonda	4,868	34,130	132	91	4	1/1, 7/1	1	70.00
Lenox Hill Hospital *[4]	New York City	A. L. Garbat and J. M. Steel	1,511	7,468	131	49	2	7/1	1	50.00
Lincoln Hospital *[4]	New York City	L. H. Shearer	3,001	19,194	692	179	9	1/1, 7/1	1	70.00
†Memorial Hospital *[4]	New York City	L. F. Craver	296	7,278	64	30	1	Varies	1-3	15.00
Metropolitan Hospital *[4]	New York City	L. J. Boyd	3,505	12,252	566	114	6	4/1, 7/1	1	100.00
Montefiore Hospital for Chronic Diseases *[4]	New York City		801	.....	189	103	7	1/1, 7/1	1	50.00
Morrisania City Hospital *[4]	New York City	E. Flood and S. Biloon	3,618	6,505	830	102	5	7/1	1	70.00
Mount Sinai Hospital *[4]	New York City		.....	.....	....	..	11	1/1, 7/1	1½	50.00
New York City Hospital *[4]	New York City	H. Marks and C. Dillon	2,998	24,227	441	135	8	7/1	1	70.00
New York Hospital *[4]	New York City	D. P. Barr	1,936	49,373	150	94	20	7/1	1-5	25.00
New York Infirmary *[4]	New York City	M. E. Manter	347	6,248	17	8	1	7/1	1	75.00
New York Polyclinic Medical School and Hospital *[4]	New York City	J. Carroll	1,532	5,286	91	12	1	7/1	2	25.00
New York Post-Graduate Medical School and Hospital *[4]	New York City	W. G. Lough	1,389	34,159	98	32	2	1/1	1	30.00
Presbyterian Hospital *[4]	New York City	W. W. Palmer	3,591	48,001	274	..	15	.....	1-3	41.66
Roosevelt Hospital *[4]	New York City	H. F. Shattuck and H. C. Thacher	2,342	8,259	311	92	8	7/1	1-2	25.00
†St. Clare's Hospital *[4]	New York City	J. P. Croce	959	2,805	85	30	2	7/1	2	25.00
St. Luke's Hospital *	New York City	G. M. Goodwin	2,804	24,878	285	98	7	Varies	1-3	50.00
St. Vincent's Hospital *[4]	New York City	F. W. Baldwin	3,247	34,857	523	181	4	7/1	1-3	50.00
†Sydenham Hospital *[4]	New York City		983	3,113	156	43	2	7/1	1-3	50.00
†Veterans Administration Hospital [4]	New York City		3,605	6,864	405	244	30	5/1	1-3	303.33
Genesee Hospital *[4]	Rochester, N. Y.	C. Bolley	1,154	.....	145	65	2	.....	1	.....
Rochester General Hospital *[4]	Rochester, N. Y.	L. F. Allen	1,519	2,878	192	117	4	7/1	1-3	60.00
St. Mary's Hospital *[4]	Rochester, N. Y.	B. J. Duffy	3,678	4,752	....	..	3	7/1	1	125.00
Strong Memorial and Rochester Municipal Hospitals *[4]	Rochester, N. Y.	W. S. McCann	3,944	19,843	385	264	13	7/1	1-4	41.66
†Ellis Hospital *[4]	Schenectady, N. Y.	G. M. Clowe	2,515	.....	275	50	2	7/1	1-3	100.00
†U. S. Marine Hospital *[4]	Stapleton, S. I. N. Y.	R. H. Smith	2,958	17,864	75	44	6	.....	1	.....
Hospital of the Good Shepherd *[4]	Syracuse, N. Y.	W. D. Ayer	.....	.....	....	..	3	.....	1-2	50.00
Grasslands Hospital *[4]	Valhalla, N. Y.	M. D. Touart	782	9,857	171	92	3	7/1	1-3	75.00
†White Plains Hospital *[4]	White Plains, N. Y.	E. W. Weber	.....	.....	.....	..	1	7/1	1-3	100.00
Charlotte Memorial Hospital *[4]	Charlotte, N. C.	T. W. Baker	1,855	897	104	50	2	1/1, 7/1	1	75.00
Duke Hospital *[4]	Durham, N. C.	E. A. Stead	3,234	41,393	123	82	13	7/1	1	83.33
Watts Hospital *	Durham, N. C.	W. R. Stanford	2,561	6,253	128	25	1	7/1	1-2	75.00
†James Walker Memorial Hospital *	Wilmington, N. C.	D. R. Murchison	2,281	3,152	154	42	1	7/1	1-2	100.00
City Hospital *	Winston-Salem, N. C.	S. F. Pfohl	1,907	4,193	200	39	4	.....	1	75.00
North Carolina Baptist Hospital *[4]	Winston-Salem, N. C.	G. T. Harrell	1,815	5,712	92	48	15	.....	1-3	.....
Bismarck Evangelical Hospital	Bismarck, N. D.		1,074	842	84	27	1	Varies	1-3	100.00
Trinity Hospital *	Minot, N. D.	P. H. Rowe	694	15,176	57	41	1	.....	1	150.00
City Hospital *	Akron, Ohio		3,203	.....	320	110	2	.....	1	100.00
†Peoples Hospital *[4]	Akron, Ohio	R. G. Jukes	1,322	923	124	33	2	5/1	1-2	150.00
†Aultman Hospital *[4]	Canton, Ohio	J. Bahrenburg	3,023	.....	202	83	4	7/1	1	.....
Mercy Hospital *	Canton, Ohio	J. D. O'Brien	2,872	.....	165	34	1	1/1, 7/1	1-3	100.00
Christ Hospital *	Cincinnati	D. A. Tucker	1,986	5,027	156	47	4	7/1	1-3	75.00
Cincinnati General Hospital *[4]	Cincinnati	M. A. Blankenhorn	2,407	25,623	718	258	20	7/1	1-3	.....
Deaconess Hospital *[4]	Cincinnati	L. B. Owens	2,798	.....	152	42	1	1/1	1	125.00
Good Samaritan Hospital *	Cincinnati	G. C. Bishop	4,046	4,668	243	54	2	7/1	1-2	105.00
Jewish Hospital *[4]	Cincinnati	R. Robenberg	3,842	.....	225	90	6	7/1	1-3	75.00
City Hospital *[4]	Cleveland	R. W. Scott	2,436	25,734	544	218	16	7/1	1-4	60.00
Cleveland Clinic Foundation Hospital [4]	Cleveland	R. L. Haden	1,143	75,270	82	20	28	7/1	1-3	100.00
Mount Sinai Hospital *[4]	Cleveland	H. S. Applebaum	1,334	9,326	136	38	2	7/1	1	100.00
St. Alexis Hospital *	Cleveland	H. V. Paryzek	2,000	3,334	225	67	2	7/1	1	75.00
St. John's Hospital *	Cleveland	C. E. Steyer	1,639	.....	142	31	2	7/1	3	100.00
St. Luke's Hospital *	Cleveland	L. Taylor	2,338	14,013	207	90	3	6/25	3	60.00
St. Vincent's Charity Hospital *	Cleveland	C. S. Stone	2,067	2,942	191	57	2	.....	1+	75.00
University Hospitals *[4]	Cleveland	J. T. Wearn	3,517	20,299	292	172	18	7/1	1+	25.00
†Veterans Administration Hospital	Cleveland		110	.....	8	8	18	7/1	2-5	.....
St. Francis Hospital *	Columbus, Ohio	B. K. Wiseman	1,252	.....	183	39	2	.....	1	.....
Starling-Loving University Hospital *[4]	Columbus, Ohio	B. K. Wiseman	1,227	12,309	145	95	8	7/1	1-3	50.00
White Cross Hospital *	Columbus, Ohio	W. F. Millhon	2,590	.....	215	69	1	7/1	1-2	100.00
Miami Valley Hospital *	Dayton, Ohio	A. B. Brower	1,986	1,399	283	117	3	7/1	1-3	75.00
Huron Road Hospital *[4]	East Cleveland, Ohio	E. A. Marshall	962	1,999	106	39	1	.....	2	80.00

Numerical and other references will be found on page 1375.

8. INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated[c]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies[a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Maumee Valley Hospital *	Toledo, Ohio	N. Morris	1,450	6,379	266	59	2	7/1	1	150.00
St. Vincent's Hospital *[4]	Toledo, Ohio	C. J. Czarnecki	3,586	3,520	204	43	2	.....	1	.....
Toledo Hospital *[4]	Toledo, Ohio	J. L. Stifel	1,943	472	116	83	2	7/1	3	125.00
St. Elizabeth's Hospital *[4]	Youngstown, Ohio	R. B. Poling	2,664	924	254	58	1	7/1	1	125.00
Youngstown Hospital *	Youngstown, Ohio	W. H. Bunn	4,516	467	387	107	2	7/1	1	100.00
St. Anthony Hospital *	Oklahoma City	P. M. McNeill	2,182	.....	133	60	1	7/1	1	75.00
University Hospitals *	Oklahoma City	W. Langston	827	9,848	114	38	6	7/1	1-3	35.00
†Emanuel Hospital *	Portland, Ore.	C. H. Pelmer	1,374	.....	141	51	2	1/1, 7/1	1½	75.00
Good Samaritan Hospital *	Portland, Ore.	C. P. Wilson	2,562	.....	151	70	2	7/1	1	65.00
†St. Vincent's Hospital *	Portland, Ore.	L. L. Selling	461	.....	26	11	6	7/1	1-3	75.00
University of Oregon Medical School Hospitals and Clinics *[4]	Portland, Ore.	L. Selling	1,683	18,645	326	144	5	7/1	3	75.00
†Veterans Administration Hospital	Portland, Ore.	J. H. Mills	1,824	.....	156	47	10	10/1	1-3	275.00
Abington Memorial Hospital *	Abington, Pa.	J. T. Beardwood Jr.	1,452	3,306	162	54	2	7/1	1-2	50.00
†Veterans Administration Hospital	Aspinwall, Pa.	R. Schwartz	150	.....	6	4	20	Varies	3	.....
Bryn Mawr Hospital *	Bryn Mawr, Pa.	F. C. Aldridge and N. MacFarlane	472	755	46	15	2	10/1	1	100.00
George F. Geisinger Memorial Hospital *[4]	Danville, Pa.	W. J. Stainsby	2,029	16,836	133	64	2	7/1	1-2	75.00
†Episcopal Hospital *	Philadelphia	J. H. Arnett and G. E. Farrar	1,374	6,384	204	..	2	.....	1	50.00
Germantown Dispensary and Hospital *[4]	Philadelphia	S. Bradbury	1,102	7,181	144	50	1	7/1	1-2	50.00
Graduate Hospital of the Univ. of Penn.*	Philadelphia	G. M. Piersol	907	7,045	77	38	2	7/1	1-2	.....
Hahnemann Hospital *[4]	Philadelphia	G. H. Wells	2,018	10,676	344	159	2	.....	1-2	.....
Hospital of the University of Penn.*[4]	Philadelphia	O. H. P. Pepper	3,297	22,394	186	109	10	7/1	1-3	25.00
Hospital of the Woman's Med. College *[4]	Philadelphia	W. G. Leaman	480	3,201	24	7	1	7/1	1-2	50.00
Jefferson Medical College Hospital *	Philadelphia	H. A. Reiman	3,017	11,098	261	134	8	.....	1	.....
Jewish Hospital *[4]	Philadelphia		1,829	.....	259	117	4	7/1	1-2	50.00
†Lankenau Hospital *	Philadelphia	F. L. Hartmann	737	1,525	93	50	1	7/1	1-3	100.00
Mount Sinai Hospital *[4]	Philadelphia	A. I. Rubenstone and T. H. Mendell	1,602	9,886	141	73	3	6/1	1-2	50.00
Pennsylvania Hospital *	Philadelphia	T. M. McMillan	2,095	6,856	286	107	4	Quarterly	1-3	20.00
Philadelphia General Hospital *[4]	Philadelphia		4,941	.....	1,069	..	7	.....	1-3	70.00
Presbyterian Hospital *[4]	Philadelphia	T. G. Schnabel	1,561	2,409	.....	..	1	.....	1-3	50.00
Temple University Hospital *[4]	Philadelphia	R. Kern	1,766	14,305	134	56	8	7/1	3	50.00
Woman's Hospital *[4]	Philadelphia		560	.....	.....	..	1	4/1	1	100.00
Allegheny General Hospital *	Pittsburgh	E. W. Willetts	1,371	7,232	188	38	2	7/1	1	100.00
Elizabeth Steel Magee Hospital [4]	Pittsburgh	J. D. Heard	1,411	.....	110	30	3	7/1	3	41.67
Mercy Hospital *[4]	Pittsburgh	W. W. G. Maclachlan	2,141	5,009	229	51	3	9/1	1-3	.....
Montefiore Hospital *[4]	Pittsburgh		1,278	5,024	143	50	2	7/1	2	50.00
Presbyterian Hospital *[4]	Pittsburgh	A. H. Colwell	1,782	.....	144	35	3	.....	1-5	33.00
St. Francis Hospital *[4]	Pittsburgh	A. W. Sherrill and F. B. Utley	1,447	1,581	155	43	3	.....	1	.....
Western Pennsylvania Hospital *	Pittsburgh	F. A. Evans	2,690	3,156	184	41	1	.....	1	75.00
Reading Hospital *[4]	Reading, Pa.	R. M. Alexander	1,101	1,151	195	97	1	7/1	1	125.00
Robert Packer Hospital *	Sayre, Pa.	S. D. Conklin	2,955	.....	125	58	5	10/1	1	150.00
Wilkes-Barre General Hospital *	Wilkes-Barre, Pa.	G. E. Baker	1,695	3,175	171	23	1	Varies	1	100.00
†York Hospital *	York, Pa.	F. R. Wise	1,189	493	159	26	1	7/1	1	200.00
†Rhode Island Hospital *	Providence, R. I.	A. M. Burgess	1,995	6,813	387	164	5	7/1	1-3	50.00
Roper Hospital *	Charleston, S. C.	W. H. Kelley	3,382	5,235	264	106	7	7/1	1-4	25.00
†Veterans Administration Hospital	Columbia, S. C.	J. H. Gibbes	3,865	.....	181	45	10	Varies	1-3	275.00
John Gaston Hospital *	Memphis, Tenn.	C. H. Sanford	2,240	15,757	413	214	7	7/1	1	32.50
George W. Hubbard Hospital of Meharry Medical College *	Nashville, Tenn.	W. H. Grant	1,167	3,385	93	27	1	7/1	1	75.00
Nashville General Hospital *	Nashville, Tenn.	W. T. Snoddy	1,239	12,543	181	61	3	7/1	1	.....
St. Thomas Hospital *	Nashville, Tenn.	W. R. Cate	1,253	.....	106	39	2	7/1	1-2	75.00
Vanderbilt University Hospital *[4]	Nashville, Tenn.	H. J. Morgan	2,066	24,954	142	75	5	7/1	1	.....
Baylor University Hospital *[4]	Dallas, Texas	H. M. Winans	2,085	.....	197	58	3	7/1	1-3	50.00
†Methodist Hospital *	Dallas, Texas	H. Donald	1,502	928	124	24	1	7/1	1	75.00
Parkland Hospital *	Dallas, Texas	T. Harrison	.....	.....	....	..	5	.....	1	50.00
†St. Paul's Hospital *	Dallas, Texas	T. M. Kirksey	1,029	.....	109	23	2	7/1	1-2	50.00
John Sealy Hospital *[4]	Galveston, Texas	C. T. Stone	1,615	13,491	181	111	10	.....	1-3	50.00
Hermann Hospital *[4]	Houston, Texas	J. A. Greene	1,790	3,710	110	43	3	7/1	1-3	50.00
Jefferson Davis Hospital *[4]	Houston, Texas	S. B. Weil	2,503[b]	9,879[b]	....	..	4	7/1	1	50.00
†Methodist Hospital *[4]	Houston, Texas	H. W. Cumming	1,007	25	49	17	2	7/1	1-3	75.00
Southern Pacific Hospital [4]	Houston, Texas	M. D. Levy	961	11,891	21	10	2	.....	1-2	125.00
Scott and White Hospital *[4]	Temple, Texas	V. M. Longmire	2,014	.....	54	17	15	Varies	2-3	150.00
†Dr. W. H. Groves Latter-Day Saints Hospital *[4]	Salt Lake City	J. R. Llewellyn	2,114	.....	199	59	2	7/1	1-3	100.00
Salt Lake County General Hospital *[4]	Salt Lake City	M. M. Wintrobe	1,103	3,272	161	108	4	7/1	1-2	25.00
†Veterans Administration Hospital	Salt Lake City	M. M. Wintrobe	1,300	.....	60	42	12	Varies	1-3	275.00
†Bishop DeGoesbriand Hospital *[4]	Burlington, Vt.	P. K. French	817	1,046	45	16	1	7/1	1	100.00
Mary Fletcher Hospital *[4]	Burlington, Vt.	E. L. Amidon	1,472	1,247	62	32	2	7/1	1	150.00
†Veterans Administration Hospital	White River Jct., Vt.	E. R. H. Kurz	1,197	1,034	35	14	6	7/1	1-3	.....
†Alexandria Hospital *[4]	Alexandria, Va.	H. A. Latane	1,065	.....	107	62	2	7/1	1-2	125.00
†Arlington Hospital [4]	Arlington, Va.	P. Commanduras	201	.....	14	8	1	7/1	1	100.00
University of Virginia Hospital *[4]	Charlottesville, Va.	H. B. Mulholland	2,536	9,183	158	76	7	7/1	1-4	25.00
Chesapeake and Ohio Hospital *[4]	Clifton Forge, Va.	J. R. Beckwith and E. A. LeHew	5,563	4,921	56	28	2	7/1	1-2	60.00
†De Paul Hospital *[4]	Norfolk, Va.	W. A. Martin	1,879	1,057	157	75	1	7/1	1	100.00
Norfolk General Hospital *[4]	Norfolk, Va.	W. B. Newcomb	2,904	1,426	189	83	3	7/1	1	75.00
†Johnston-Willis Hospital *[4]	Richmond, Va.	J. M. Hutcheson	880	.....	92	37	1	7/1	1	100.00
Medical College of Virginia Hosp. Div.*	Richmond, Va.	W. B. Porter	2,655	11,536	204	82	7	7/1	1	46.50
†Veterans Administration Hospital	Richmond, Va.	J. P. Williams	203	.....	6	6	20	Varies	1-3	275.00
†Jefferson Hospital *	Roanoke, Va.	G. B. Lawson	.....	.....	69	18	1	7/1	1-2	125.00
†Lewis-Gale Hospital *	Roanoke, Va.	C. D. Nofsinger	1,138	.....	.....	..	1	7/1	1-3	150.00
†Doctors Hospital *	Seattle	C. I. Krantz	1,417	.....	92	54	1	7/1	1	100.00
King County Hospital *	Seattle	C. E. Watts	3,436	6,945	739	213	4	7/1	1	125.00
†Providence Hospital*	Seattle	R. B. Foster	4,485	234	211	54	3	7/1	1-2	100.00
†Swedish Hospital *	Seattle	E. G. Bannick	1,380[b]	.....	....	..	1	.....	1	.....
Virginia Mason Hospital *	Seattle	L. J. Palmer	1,532	.....	86	50	6	.....	1	.....
†Deaconess Hospital *[4]	Spokane	L. S. Gilpatrick	1,370	.....	169	14	3	7/1	1-3	150.00
†Northern Permanente Foundation Hosp.*[4]	Vancouver, Wash.	W. Armstrong	2,930	7,996	76	68	2	.....	1	.....
†Beckley Hospital	Beckley, W. Va.	D. C. Ashton	955	9,345	77	20	2	1/1, 7/1	1	150.00
†Charleston General Hospital *[4]	Charleston, W. Va.	W. A. Thornhill Jr.	2,115	2,921	124	56	3	7/1	1-3	125.00
Chesapeake and Ohio Hospital *	Huntington, W. Va.	J. P. Webb	1,980	6,421	59	20	4	7/1	1-3	65.00
St. Mary's Hospital *	Huntington, W. Va.	R. J. Stevens	2,318	.....	200	28	1	7/1	1	100.00
†La Crosse Lutheran Hospital *[4]	La Crosse, Wis.	G. Gunderson	1,399	.....	44	20	1	7/1	1	100.00
†Madison General Hospital *	Madison, Wis.	M. Foster	1,400	.....	124	25	1	Varies	1-3	50.00
State of Wisconsin General Hospital *[4]	Madison, Wis.	O. O. Meyer	4,110	25,371	148	94	16	7/1	3	25.00
Columbia Hospital *	Milwaukee	E. W. Mason	879	.....	91	34	1	7/1	3	50.00

Numerical and other references will be found on page 1375.

8. INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Milwaukee County Hospital *[4]	Milwaukee	J. Shaiken	4,711	15,606	939	227	22	Varies	1-3	75.00
†Mount Sinai Hospital *	Milwaukee	R. A. Frisch	1,034	2,940	114	31	2	.....	1	75.00
St. Joseph's Hospital *	Milwaukee	A. Kustermann	3,089	.....	287	64	1	6/1	1-3	75.00
†Veterans Administration Hospital	Milwaukee	M. Hardgrove	.....	624	64	20	29	7/1	1-3	275.00
Queens Hospital *[4]	Honolulu, Hawaii		2,674	.....	208	103	3	4/1, 10/1	1-2	.....

Hospitals, 377; Assistant Residencies and Residencies, 2,219

9. MALIGNANT DISEASES

Grady Memorial Hospital *[4]	Atlanta, Ga.	C. B. Stewart	373	12,940	29	4	2	7/1	...	$ 20.00
Michael Reese Hospital *[4]	Chicago	E. Uhlmann	4,793	998	....	..	3	.....	1-3	50.00
Veterans Administration Hospital	Hines, Ill.	I. Ariel	1,300	.....	238	139	1	.....	1-3	275.00
Massachusetts General Hospital *	Boston		(Included in Surgery)				1	.....	1	.....
New England Deaconess Hospital	Boston	L. S. McKittrick	1,624[b]	6,728[b]	....	..	2	1/1, 4/1	1	75.00
Pondville Hospital	Walpole, Mass.	G. L. Parker	758	6,752	43	31	5	.....	1	200.00
Westfield State Sanatorium [4]	Westfield, Mass.	F. Hopkins	336	.....	24	23	3	7/1	1-2	200.00
Wayne County General Hospital and Infirmary *[4]	Eloise, Mich.	P. V. Walker	485	446	185	61	1	7/1	1	197.50
University Hospital *[4]	Minneapolis	O. H. Wangensteen	286	2,965	5	4	3	7/1	1-3	100.00
Ellis Fischel State Cancer Hospital [4]	Columbia, Mo.		1,145	5,603	41	31	8	7/1	1-2	50.00
Barnard Free Skin and Cancer Hospital	St. Louis	W. E. Leighton	572	9,082	12	5	1	1/1	1	100.00
Jersey City Hospital *[4]	Jersey City, N. J.	J. B. Faison	424	2,080	104	22	1	Varies	1	35.00
Brooklyn Cancer Institute [4]	Brooklyn	W. E. Howes	688	6,208	222	49	6	1/1	1+	.....
Rosewell Park Memorial Institute [4]	Buffalo	L. C. Kress	2,135	.....	121	113	4	.....	1	.....
Meadowbrook Hospital *	Hempstead, N. Y.	J. W. McChesney	318	2,872	105	48	1	4/1	1	115.00
Memorial Hospital *[4]	New York City	C. P. Rhoads	5,300	76,614	190	92	22	1/1, 7/1	1	15.00
Montefiore Hospital for Chronic Diseases *	New York City	D. Laszlo	611	.....	330	173	3	7/1	1	50.00
New York Cancer Institute Hospital [4]	New York City	T. A. Morrissey	833	4,923	473	86	7	7/1	1-2	100.00
Duke Hospital *[4]	Durham, N. C.		(Included in Surgery)				2	.....	1	.....
American Oncologic Hospital [4]	Philadelphia	C. M. Dorrance	657	7,338	35	25	5	6/1, 12/1	1-3	100.00
Jeanes Hospital [4]	Philadelphia	A. E. Bothe	572[b]	8,173[b]	61	24	3	4/1, 9/1	1-3	100.00

Hospitals, 21; Assistant Residencies and Residencies, 94

10. NEUROLOGICAL SURGERY

The following services are approved by the Council and the American Board of Neurological Surgery

Jefferson and Hillman Hospitals *[4]	Birmingham, Ala.	G. Galbraith	833	834	59	37	2	7/1	1	$ 50.00
Los Angeles County Hospital *[4]	Los Angeles	C. W. Rand	2,834[a]	871	289	23	3	Varies	3	157.20
†White Memorial Hospital *	Los Angeles	W. T. Grant	278	.....	..	..	3	7/1	1-3	120.00
Franklin Hospital *[4]	San Francisco	H. A. Brown	661	.....	24	13	1	7/1	1	200.00
University of California Hospital *[4]	San Francisco	H. C. Naffziger	402	.....	17	14	2	7/1	1	50.00
†Veterans Administration Hospital [4]	San Francisco	F. W. Lusignan	312	.....	12	12	1	7/1	..	275.00
Hartford Hospital *[4]	Hartford, Conn.	O. G. Wiedman	526	214	39	24	1	7/1	1-3	50.00
†Grace-New Haven Community Hospital *[25]	New Haven, Conn.	W. J. German	456	1,182	41	28	4	7/1	1-3	100.00
St. Vincent's Hospital *	Jacksonville, Fla.	J. G. Lyerly	336	.....	21	13	2	.....	1	.....
†Veterans Administration Hospital	Chamblee, Ga.	M. H. Harris	142	.....	5	2	5	7/1	1-3	275.00
†Emory University Hospital *	Emory University, Ga.	E. F. Fincher	406	394	10	8	2	9/1	1-4	50.00
Chicago Memorial Hospital *	Chicago	P. C. Bucy	285	600	11	9	2	1/1	1-3	100.00
Illinois Neuropsychiatric Institute [5]	Chicago	E. Oldberg	.....	.....	..	..	3	.....	1	.....
Mercy Hospital-Loyola University Clinics *	Chicago	H. C. Voris	219	51	17	13	1	7/1	1-2	25.00
Passavant Memorial Hospital *[4]	Chicago	L. Davis	343	.....	28	23	1	.....	1	.....
Presbyterian Hospital *	Chicago	A. Verbrugghen	178	257	13	5	1	1/1	1-3	25.00
St. Luke's Hospital *[4,7]	Chicago	E. Oldberg	1,210	307	25	16	1	7/1	1-3	25.00
University of Chicago Clinics *	Chicago	A. E. Walker	158	1,009	16	13	2	7/1	1	25.00
†Veterans Administration Hospital	Hines, Ill.	L. Davis	319	.....	30	4	4	.....	1-3	275.00
†University of Kansas Hospitals *	Kansas City, Kan.		234	.....	18	11	1	.....	1	.....
†Louisville General Hospital *[17]	Louisville, Ky.	R. G. Spurling	217	.....	38	10	2	.....	1-2	.....
†Foundation Hospital	New Orleans	D. H. Echols	425	1,346	10	5	2	1/1, 7/1	3	100.00
Johns Hopkins Hospital *	Baltimore		714	.....	45	26	3	7/1	1	.....
†University Hospital *[4]	Baltimore	C. Bagley Jr.	432	600	43	35	4	7/1	1-4	50.00
Boston City Hospital *[4]	Boston	D. Munro	398	.....	76	12	2	.....	1	50.00
Lahey Clinic	Boston	G. Horrax	1,000	2,500	24[b]	17[b]	5	.....	1	.....
Massachusetts General Hospital *	Boston	J. C. White	263	.....	40	13	5	.....	1-3	41.67
†University Hospital *[4]	Ann Arbor, Mich.	M. M. Peet	770	1,943	75	44	..	.....	1	101.40
†Grace Hospital *	Detroit	E. S. Gurdjian	220	91	22	9	1	7/1	1-5	125.00
Henry Ford Hospital *[4]	Detroit	A. S. Crawford	248	1,364	15	6	2	7/1	1-5	200.00
University Hospitals *[4]	Minneapolis	W. T. Peyton	214	553	25	19	3	7/1	1-3	100.00
Mayo Foundation	Rochester, Minn.	A. W. Adson	(See page 1375)				8	.....	1	.....
Barnes Hospital *	St. Louis	E. Sachs	292	.....	36	25	5	7/1	1-3	25.00
University of Nebraska Hospital *	Omaha	J. J. Keegan	23	.....	1	1	1	7/1	1-3	50.00
Albany Hospital *[4]	Albany, N. Y.	E. H. Campbell	691	.....	32	18	3	7/1	1	41.67
Jewish Hospital *[4]	Brooklyn	J. Siris and I. Tarlov	159	322	18	10	2	7/1	1-2	30.00
Kings County Hospital *	Brooklyn	E. J. Browder	.....	1,350	251	124	3	7/1	1-3	70.00
Buffalo General Hospital *	Buffalo	W. B. Hamby	384	85	45	25	3	7/1	1-4	25.00
Bellevue Hospital, Div. III—N. Y. Univ.*[4]	New York City		(Included in Surgery)				2	.....	1	.....
Montefiore Hospital for Chronic Diseases *	New York City	L. M. Davidoff	282	.....	35	15	3	1/1	1	50.00
†Mount Sinai Hospital *[4]	New York City		156	.....	16	12	1	Varies	1-3	25.00
Neurological Institute	New York City		(See Presbyterian Hospital)							
Presbyterian Hospital *[4,7]	New York City	T. J. Putnam	3,702	13,522	126	..	18	.....	1	41.66
Strong Memorial and Rochester Municipal Hospitals *[4]	Rochester, N. Y.	W. P. VanWagenen	267	231	..	..	1	7/1	1-2	41.66
†Christ Hospital *	Cincinnati	F. H. Mayfield	.....	.....	..	..	1	7/1	1-3	75.00
Cincinnati General Hospital *	Cincinnati		(Included in Surgery)				2	.....	1	.....
Cleveland Clinic Foundation Hospital [4]	Cleveland	W. J. Gardner	719	4,936	51	24	5	7/1	1-3	100.00
White Cross Hospital *	Columbus, Ohio	H. E. LeFever	107	.....	25	10	1	7/1	1-2	100.00
†University Hospitals *	Oklahoma City	H. Wilkins	157	415	26	4	1	7/1	1-2	35.00
†University of Oregon Medical School Hospitals and Clinics *[26]	Portland, Ore.	J. Raaf	721	.....	28	17	3	7/1	3	75.00
Hospital of the Univ. of Pennsylvania *[4]	Philadelphia	F. C. Grant	688	309	56	44	6	Varies	1-3	50.00
Temple University Hospital *[4]	Philadelphia	M. Scott	455	1,028	41	13	1	7/1	3	50.00
Baptist Memorial Hospital *	Memphis, Tenn.	R. E. Semmes	825	.....	52	25	4	7/1	1	.....
Vanderbilt University Hospital *[4]	Nashville, Tenn.	C. Pilchner	(Included in Surgery)				2	.....	1	.....
†Methodist Hospital *[4]	Houston, Texas	J. Greenwood Jr.	345	.....	19	11	1	Varies	1-3	75.00
†Veterans Administration Hospital	White River Jct., Vt.	H. L. Heyl	370	624	3	2	1	Varies	1-3	.....
University of Virginia Hospital *[4]	Charlottesville, Va.	W. G. Crutchfield	646	644	34	7	4	7/1	1-3	50.00
Medical College of Virginia, Hosp. Div.*	Richmond, Va.	C. C. Coleman	926	365	54	23	3	7/1	1	60.00

Hospitals, 58; Assistant Residencies and Residencies, 156

Numerical and other references will be found on page 1375.

11. NEUROLOGY

The following services are approved by the Council and the American Board of Psychiatry and Neurology
(See footnotes 1, 2, and 3 for number of years credit)

United States Army.—Residencies available to medical officers, U. S. Army.
†Letterman General Hospital ★[3] ..... San Francisco
†Walter Reed General Hospital ★[1] ..... Washington, D. C.
Brooke General Hospital ★[1] ..... San Antonio, Texas

United States Navy.—Residencies available to medical officers, U. S. Navy.
†U. S. Naval Hospital ★[1] ..... Bethesda, Md.

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Los Angeles County Hospital ★[3,4]	Los Angeles	S. O. Ingham	1,934	1,860	611	175	2	Varies	2	$157.20
†University of California Hospital ★[1]	San Francisco	C. D. Aring	.....	2,672	..	..	3	7/1	1	50.00
†Veterans Administration Hospital [3]	Van Nuys, Calif.	H. N. Roback	429	1,008	19	17	3	1/1, 7/1	3	275.00
Gallinger Municipal Hospital ★[2,4]	Washington, D. C.	W. Freeman	536	.....	45	17	1	7/1	1-3	75.00
George Washington University Hospital ★[2]	Washington, D. C.	W. Freeman	82	398	1	..	2	.....	1	.....
†Cook County Hospital ★[1]	Chicago	V. Gonda	772	1,918	131	25	1	Varies	1-3	27.50
†Illinois Neuropsychiatric Institute [1]	Chicago	P. Bailey	539	9,343	48	41	1	9/1	1	55.00
St. Luke's Hospital ★[2]	Chicago	F. J. Gerty	(See Neurological Surgery)				1	7/1	1-3	25.00
University of Chicago Clinics ★[2]	Chicago	R. B. Richter	147	2,709	9	7	1	7/1	1	25.00
Veterans Administration Hospital [3]	Hines, Ill.	L. J. Pollock	1,200	2,500	6	4	20	Varies	3	303.33
†Methodist Hospital ★[1,4]	Indianapolis	E. R. Smith	301	.....	7	2	1	7/1	1-2	200.00
University Hospitals ★[3,4]	Iowa City	A. L. Sahs	1,141	1,326	38	20	3	7/1	1	40.00
Charity Hospital of Louisiana ★[3,4,5]	New Orleans		775	5,528	25	12	3	7/1	1-3	25.00
Baltimore City Hospital ★[3,4]	Baltimore	J. W. Magladery	.....	.....	..	..	1	7/1	1	35.00
Boston City Hospital ★[3,4]	Boston	D. D. Brown	379	3,252	23	17	10	.....	1	50.00
†Joseph H. Pratt Diagnostic Hospital [1]	Boston	R. D. Adams	400	.....	..	..	1	7/1	1	83.33
Massachusetts General Hospital ★[3]	Boston	E. S. Kubik	250	6,858	15	10	2	7/1	1-3	41.67
†Veterans Administration Hospital [1]	Boston	S. Tartakoff	730	.....	141	58	2	4/1, 10/1	1	275.00
†Veterans Administration Hospital [1]	Framingham, Mass.	W. Bloomberg	.....	.....	..	..	15	3/1, 9/1	1-3	.....
University Hospital ★[3,4]	Ann Arbor, Mich.	C. D. Camp	600	4,718	18	13	5	Varies	..	101.40
Henry Ford Hospital ★[1,4]	Detroit	T. J. Heidt	712	8,893	22	7	5	7/1	1-3	200.00
Wayne County General Hospital and Infirmary ★[1,4]	Eloise, Mich.	R. T. Costello	832	1,648	23	10	1	7/1	1	197.50
†University Hospitals ★[1,4]	Minneapolis	A. B. Baker	499	2,848	21	17	9	7/1	1-3	100.00
†Veterans Administration Hospital [1]	Minneapolis	A. B. Baker	336	974	32	12	5	.....	1	275.00
Mayo Foundation [3]	Rochester, Minn.	H. W. Woltman	(See page 1375)				10	.....	1-3	.....
Homer G. Phillips Hospital ★[2,5]	St. Louis	E. F. Gledea	889	895	64	16	2	7/1	1	50.00
Brooklyn Hospital ★[2]	Brooklyn	E. J. Browder	.....	.....	..	..	2	7/1	1	25.00
Kings County Hospital ★[2]	Brooklyn	A. Rabiner	3,390	1,995	642	57	4	7/1	1-2	70.00
Bellevue Hosp., Div. II—Cornell Univ. ★[3,4]	New York City	F. Kennedy	400	5,500	45	35	3	7/1	1-3	45.00
Bellevue Hosp., Div. III—N. Y. Univ. ★[3,4]	New York City	S. B. Wortis	2,400	1,000	..	..	4	7/1	1	45.00
Goldwater Memorial Hospital ★[2,4,5]	New York City	E. D. Friedman and E. G. Zabriski	676	445	90	23	10	7/1	1	50.00
Lenox Hill Hospital ★[2,4]	New York City	T. K. Davis	417	1,102	17	8	1	7/1	1	50.00
Metropolitan Hospital ★[2,4]	New York City	S. P. Jewett	.....	1,582	11	2	1	7/1	1	100.00
Montefiore Hospital for Chronic Dis. ★[3,4]	New York City	H. H. Merritt	462	.....	20	11	5	1/1, 7/1	1	50.00
Morrisania City Hospital ★[2,4]	New York City	N. Savitsky	.....	790	..	..	2	7/1	1	70.00
Mount Sinai Hospital [3,4]	New York City		.....	.....	..	..	6	7/1, 11/1	1½	50.00
Neurological Institute	New York City		(See Presbyterian Hospital)							
New York City Hospital ★[2,4]	New York City	J. H. Nolan	488	901	140	26	1	7/1	1	120.00
Presbyterian Hospital ★[3,4]	New York City	T. J. Putnam	(See Neurosurgery)				1	.....	1	41.66
†Veterans Administration Hospital [1]	New York City	H. L. Flowers	383	.....	25	6	2	7/1	1-3	275.00
†Rochester General Hospital ★[1,4]	Rochester, N. Y.	G. R. Lavine and P. W. Prew	.....	53	..	..	1	7/1	1	200.00
Duke Hospital ★[3,4]	Durham, N. C.	R. Graves	145	1,885	2	2	1	7/1	1	83.33
Cincinnati General Hospital ★[3]	Cincinnati	H. D. McIntyre	(Included in Internal Med.)				2	.....	1	.....
†Cleveland Clinic Foundation Hospital [1,4]	Cleveland	L. J. Karnosh	.....	4,936	51	24	1	7/1	1-3	100.00
Hospital of the Univ. of Pennsylvania ★[3,4]	Philadelphia	G. D. Gammon	456	2,865	9	5	2	Varies	1-2	50.00
Jefferson Medical College Hospital ★[3]	Philadelphia	B. J. Alpers	656	2,306	36	12	3	.....	1	.....
†Philadelphia General Hospital ★[1,4]	Philadelphia		1,739	.....	529	..	3	.....	1-3	70.00
Temple University Hospital ★[3,4]	Philadelphia	S. F. Gilpin	275	521	14	3	1	7/1	3	50.00
†St. Francis Hospital ★[1]	Pittsburgh	R. R. O'Toole	.....	.....	..	..	1	.....	1	.....
†Galveston State Psychopathic Hospital [1]	Galveston, Texas	J. R. Ewalt	162	2,590	3	2	6	.....	1-3	200.00

Hospitals, 48; Assistant Residencies and Residencies, 173

12. OBSTETRICS AND GYNECOLOGY

The following services are approved by the Council and the American Board of Obstetrics and Gynecology
(See footnotes 1, 2 and 3 for number of years credit)

United States Army.—Residencies available to medical officers, U. S. Army.
Fitzsimons General Hospital ★[1] (OBG)† ..... Denver
Walter Reed General Hospital ★[1] (OBG) ..... Washington, D. C.

United States Navy.—Residencies available to medical officers, U. S. Navy.
U. S. Naval Hospital ★[1] (OBG) ..... Long Beach, Calif.
U. S. Naval Hospital ★[1] (OBG) ..... Oakland, Calif.
U. S. Naval Hospital ★[2] (OBG) ..... San Diego, Calif.
U. S. Naval Hospital ★[2] (OBG) ..... Great Lakes, Ill.
U. S. Naval Hospital [1] (OBG) ..... Annapolis, Md.
U. S. Naval Hospital ★[2] (OBG)† ..... Bethesda, Md.
U. S. Naval Hospital ★[1] (OBG) ..... Chelsea, Mass.
U. S. Naval Hospital ★[1] (OBG) ..... Brooklyn
U. S. Naval Hospital ★[1] (OBG) ..... Philadelphia
U. S. Naval Hospital ★[1] (OBG) ..... Portsmouth, Va.

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6] OB	Inpatients Treated [6] Gyn	Outpatient Visits OB	Outpatient Visits Gyn	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Jefferson and Hillman Hospitals ★[3,4]	Birmingham, Ala.	J. R. Garber and W. N. Jones	OBG	3,078	1,964	6,187	5,942	4	7/1	1	$ 80.00
Norwood Hospital ★[1]	Birmingham, Ala.	T. M. Boulware	OB†	1,297	.....	5,317	.....	1	1/1	1	100.00
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company ★[2]	Fairfield, Ala.	O. T. West	OB	1,401	.....	7,672	.....	2	7/1	1-3	200.00
St. Vincent Infirmary ★[1]	Little Rock, Ark.	C. Rodgers	OB†	1,704	.....	7,800	.....	1	7/1	1	50.00
		C. Rodgers	Gyn†	.....	908	.....	4,500	2	7/1	1	50.00
University Hospitals ★[1,4]	Little Rock, Ark.	C. R. Henry and J. H. Sanderlin	OBG†	1,116	472	7,340	3,312	2	.....	1-3	.....
San Joaquin General Hospital ★[1]	French Camp, Calif.	S. Hanson	OB	607	.....	3,534	.....	3	7/1	1	200.00
California Hospital ★[2,4]	Los Angeles	D. G. Tollefson	OB†	3,332	.....	647	.....	6	7/1	3	100.00
Los Angeles County Hospital ★[3,4]	Los Angeles	B. J. Hanley	OBG	5,732	1,610	1,393	4,487	6	Varies	3+	157.20
Presbyterian Hospital-Olmsted Memorial ★[1]	Los Angeles	J. C. Irwin	OB†	2,023	.....	.....	.....	8	7/1	1	45.00

Numerical and other references will be found on page 1375.

12. OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6] OB	Inpatients Treated [6] Gyn	Outpatient Visits OB	Outpatient Visits Gyn	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Queen of Angeles Hospital *[2]	Los Angeles	A. M. McCarthy	OBG†	3,523	1,466	202	437	3	7/1	3	100.00
White Memorial Hospital *[2,4]	Los Angeles	R. J. Thompson	OBG	1,563	803	9,352	6,833	6	.....	1-3	125.00
Highland-Alameda County Hospital *[2,4]	Oakland, Calif.	C. A. DePuy	OBG	925	497	.....	.....	2	7/1	1-3	155.00
Permanente Foundation Hospital *[1,4]	Oakland, Calif.	R. King	OBG†	701	539	.....	6,867	4	7/1	1	75.00
Samuel Merritt Hospital [2]	Oakland, Calif.	C. Hall and E. N. Ewer	OBG†	2,002	728	.....	.....	3	7/1	1-3	110.00
Collis P. and Howard Huntington Memorial Hospital *[1]	Pasadena, Calif.	W. C. Rogers	OBG†	2,255	945	.....	.....	1	9/1	1	150.00
Children's Hospital *[3,4]	San Francisco	H. A. Stephenson	OBG	2,474	1,007	3,444	1,037	3	Varies	1-2	50.00
Mary's Help Hospital *[1]	San Francisco	C. L. Cooley	OBG†	1,784	457	1,432	544	1	7/1	1	250.00
St. Mary's Hospital *[1]	San Francisco	P. H. Arnot	OB	2,264	.....	.....	.....	1	4/1	1	100.00
San Francisco Hospital *[3,4]	San Francisco	W. G. Moore	OBG	1,540	691	.....	.....	4	Varies	1	175.00
Stanford University Hospitals *[3,4]	San Francisco	L. A. Emge	OBG	2,324	913	.....	14,836	6	7/1	1-2	50.00
University of California Hospital *[3,4]	San Francisco	H. F. Traut	OBG	1,016	813	4,718	6,877	5	7/1	1	50.00
Santa Clara County Hospital *[1,4]	San Jose, Calif.	A. Shufelt	OBG	347	.....	.....	.....	1	.....	1-2	185.00
Colorado General Hospital *[3,4]	Denver	C. B. Ingraham	OBG	536	342	2,368	2,075	2	4/1	1-2	85.00
Denver General Hospital *[1]	Denver	B. B. Jaffa and W. W. King	OBG†	587	752	1,710	440	1	1/1	1	50.00
St. Luke's Hospital *[2]	Denver	J. R. Evans	OBG†	1,756	872	.....	.....	1	12/1	1	.....
Hartford Hospital *[3,4]	Hartford, Conn.	R. W. Storrs	OBG†	5,435	2,155	4,272	360	3	7/1	1-3	50.00
Grace-New Haven Community Hospital Grace Unit *[2]	New Haven, Conn.	H. B. Perrins	OBG	1,680	692	.....	.....	3	7/1	3	40.00
New Haven Unit *[3,4]	New Haven, Conn.	A. H. Morse	OBG	2,428	.....	7,857	.....	4	7/1	1	40.00
Hospital of St. Raphael *[1]	New Haven, Conn.	C. E. Johnson	OB	1,987	.....	642	.....	3	7/1	1	75.00
Lawrence and Memorial Assoc., Hospital *[1]	New London, Conn.	C. G. Barnum	OBG†	1,863	369	.....	.....	4	7/1	1	105.00
Columbia Hospital for Women and Lying-In Asylum [3,4]	Washington, D. C.		OBG	1,323	3,615	6,588	3,022	8	1/1	1-2	None
Doctors Hospital *[1]	Washington, D. C.	J. W. Warner	OBG†	1,380	902	.....	.....	1	7/1	1	100.00
Freedmen's Hospital *[3,4]	Washington, D. C.	J. W. Ross	OBG	2,196	980	4,332	2,987	3	7/1	1-3	75.00
Gallinger Municipal Hospital *[3,4]	Washington, D. C.	J. Parks	OBG	3,709	509	3,249	2,350	7	7/1	1-3	75.00
Garfield Memorial Hospital *[3,4]	Washington, D. C.	H. P. Parker	OB	3,365	.....	3,398	.....	3	.....	1	75.00
Georgetown University Hospital *[3,4]	Washington, D. C.	J. J. Mundell and L. A. Martel	OBG	1,780	973	387	437	2	1/1, 7/1	1-3	30.50
Providence Hospital *[2]	Washington, D. C.	G. Ellis	OB	3,000	.....	1,002	.....	1	.....	1	.....
Sibley Memorial Hospital *[2,4]	Washington, D. C.	J. Kotz	OB	3,095	.....	.....	.....	4	.....	1-2	100.00
St. Luke's Hospital *[1]	Jacksonville, Fla.	S. R. Norris	OB†	1,897	.....	2,400	.....	2	7/1	1	125.00
Crawford Long Memorial Hospital *[2]	Atlanta, Ga.	M. T. Benson Jr.	OBG	1,350	400	1,800	200	3	7/1	1	100.00
Grady Memorial Hospital *[3,4]	Atlanta, Ga.	J. B. Cross	OBG	4,200	1,033	24,920	8,956	12	7/1	1	20.00
University Hospital *[3,4]	Augusta, Ga.	R. Torpin	OBG	2,433	991	5,437	906	4	7/1	1-2	40.00
Augustana Hospital *[1]	Chicago	W. H. Browne	OBG†	1,025	1,043	747	1,535	1	7/1	1-3	50.00
Chicago Lying-In Hospital and Dispensary	Chicago								(See University of Chicago Clinics)		
Chicago Maternity Center [1,4]	Chicago	R. E. Tucker	OB	1,812[9]	.....	6,504[9]	.....	38	1/1	1	75.00
Cook County Hospital *[3,4]	Chicago	J. E. Fitzgerald	OB	7,041	.....	8,475	.....	8	Varies	1-3	27.50
Grant Hospital *[1,4]	Chicago	F. H. Falls	OB(G)†	1,296	.....	.....	.....	1	7/1	1-3	125.00
Henrotin Hospital *[1,4]	Chicago	E. L. Cornell	OB	854	.....	681	.....	1	7/1	1-2	100.00
Illinois Masonic Hospital *[1,4]	Chicago	F. J. Roos	OBG	788	383	.....	.....	1	.....	1	.....
Lewis Memorial Maternity Hospital [3,4]	Chicago	H. E. Schmitz	OBG	1,618	36	11,351	560	4	7/1	1-5	50.00
Lutheran Deaconess Home and Hospital *[1]	Chicago		OB†	985	.....	.....	.....	1	7/1	1	100.00
Mercy Hospital-Loyola Univ. Clinics *[3,4]	Chicago	H. E. Schmitz	OBG	717	791	462	1,652	2	7/1	1-2	25.00
Michael Reese Hospital *[2,4]	Chicago	I. F. Stein	OBG	2,941	1,454	3,109	1,752	9	.....	1-3	25.00
Mount Sinai Hospital *[1,4]	Chicago		OBG	1,322	506	552	410	1	7/1	1	50.00
Passavant Memorial Hospital *[3,4]	Chicago	A. H. Curtis	Gyn	.....	742	.....	555	2	.....	1	None
Presbyterian Hospital *[3]	Chicago	E. D. Allen	OBG	3,233		1,553		5	5/1, 9/1	1-3	25.00
Provident Hospital *[3,4]	Chicago	W. W. Gibbs and P. M. Santos	OBG	1,353	716	2,420	1,871	4	.....	1	.....
Ravenswood Hospital *[1,4]	Chicago	M. Field	OBG†	1,580	576	260	587	2	7/1	1-2	150.00
Research and Educational Hospitals *[3,4]	Chicago	F. H. Falls	OB	877	.....	6,890	.....	2	7/1	1-3	55.00
St. Anne's Hospital *[2]	Chicago	R. J. Hawkins	OB	2,108	.....	.....	.....	3	1/1, 7/1	1-3	125.00
St. Elizabeth's Hospital *[1]	Chicago	J. R. Lavieri	OBG†	2,474	988	.....	.....	2	.....	3	60.00
St. Joseph Hospital *[1,4]	Chicago	C. Geiger	OB	1,396	.....	.....	.....	1	.....	1	.....
			Gyn	.....	638	.....	.....	1	.....	1	.....
St. Luke's Hospital *[3,4]	Chicago	H. O. Jones	OBG	1,591	1,010	4,276	1,958	4	7/1	1-3	25.00
St. Mary of Nazareth Hospital *[1]	Chicago	M. Uznanski	OBG†	2,029	415	.....	.....	1	.....	1	100.00
St. Vincent's Infant and Maternity Hosp. [1,4]	Chicago	H. E. Schmitz	OB	463	.....	2,061	.....	1	.....	1	.....
Swedish Covenant Hospital *[1,4]	Chicago	G. L. Rosene and R. A. Lifvendahl	OBG†	1,854	721	.....	.....	2	2/1	1	125.00
University of Chicago Clinics *[3,4]	Chicago	W. J. Dieckmann	OBG	4,374	906	27,487	10,343	8	7/1	1-3	25.00
Wesley Memorial Hospital *[3,4]	Chicago	G. H. Gardner	OB	1,680	.....	.....	.....	1	1/1, 7/1	1-3	25.00
		G. H. Gardner	Gyn	.....	828	.....	.....	2	1/1, 7/1	1-3	25.00
Women and Children's Hospital *[2,4]	Chicago	L. E. Nadelhoffer	OB	1,227	.....	1,076	.....	2	7/1	1-3	75.00
Evanston Hospital *[2]	Evanston, Ill.	W. C. Danforth	OBG†	2,226		1,500		3	.....	3	50.00
St. Francis Hospital *[3]	Evanston, Ill.	J. X. Bremner and E. C. McGill	OBG	2,184	755	.....	.....	1	.....	1	75.00
Little Company of Mary Hospital *[2]	Evergreen Park, Ill.	P. Lawler	OB	2,430	.....	.....	.....	2	1/1	1	100.00
West Suburban Hospital *[2]	Oak Park, Ill.	F. H. Falls	OBG	3,168	1,039	.....	.....	2	4/1, 7/1	1	150.00
St. Francis Hospital *[2,4]	Peoria, Ill.	E. P. Burt	OBG	1,921	890	448	319	2	4/1, 7/1	1-3	150.00
Indianapolis City Hospital *[3,4]	Indianapolis	H. F. Beckman and J. W. Hofmann	OBG	1,317	926	6,390	2,769	3	.....	1	.....
Indiana University Medical Center *[3,4]	Indianapolis	H. F. Beckman	OB	1,809	.....	2,940	.....	3	.....	1-3	33.33
Methodist Hospital *[2,4]	Indianapolis	D. L. Smith	OB	4,250	.....	.....	.....	2	7/1	1-2	200.00
St. Elizabeth Hospital *[2]	La Fayette, Ind.	F. Peyton	OBG†	1,021	900	.....	.....	4	7/1	1	75.00
University Hospitals *[3,4]	Iowa City	E. D. Plass	OBG	870	986	511	1,816	8	7/1	1	40.00
University of Kansas Hospitals *[3]	Kansas City, Kan.	L. A. Calkins	OBG	889	578	3,453	3,007	4	.....	1-3	.....
St. Francis Hospital *[2]	Wichita, Kan.	R. A. West	OBG	3,866		.....	.....	1	.....	1	.....
Louisville General Hospital *[3]	Louisville, Ky.	C. Hibbitt	OBG	1,657	642	9,445	6,316	6	4/1	1-4	45.00
St. Joseph Infirmary *[1]	Louisville, Ky.	E. R. Cadden	OBG†	1,680	1,518	242	.....	1	.....	1	.....
Charity Hospital of Louisiana *[3,4]	New Orleans		OBG	7,114	3,898	33,869	18,872	20	7/1	1-3	25.00
Touro Infirmary *[3]	New Orleans		OB	1,759	.....	3,579	.....	2	7/1	1	25.00
			Gyn	.....	1,428	.....	1,573	2	7/1	1	25.00
Baltimore City Hospitals *[3,4]	Baltimore	L. H. Douglass	OB	1,000	.....	.....	.....	4	7/1	1	35.00
Bon Secours Hospital *[1,4]	Baltimore	H. B. McNally and E. Novak	OBG†	996	736	130	534	2	4/1	1-3	76.00
Franklin Square Hospital *[1,4]	Baltimore	I. A. Seigel	OB	1,568	.....	1,707	.....	4	.....	1	.....
Hospital for Women *[1,4]	Baltimore	J. Bergland	OB	1,505	.....	2,739	.....	2	4/1	1	75.00
Johns Hopkins Hospital *[3,4]	Baltimore	N. J. Eastman	OB	2,834	.....	13,969	.....	5	7/1	1+	.....
		R. W. TeLinde	Gyn	.....	2,222	.....	12,341	5	7/1	1+	.....
Maryland General Hospital *[2]	Baltimore	K. B. Boyd and E. H. Kloman	OBG	935	467	178	90	3	7/1	1-3	50.00
Mercy Hospital *[3]	Baltimore	E. P. Smith and T. K. Galvin	OBG	1,293	895	.....	.....	3	7/1	1	90.00
Provident Hospital and Free Disp. *[1,4]	Baltimore	L. H. Douglass	OB	255	.....	.....	.....	1	.....	1	.....
St. Agnes Hospital *[1]	Baltimore	D. P. Bowe and E. Novak	OBG†	1,608	812	532	140	3	.....	1	.....

Numerical and other references will be found on page 1375.

12. OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [4] OB	Inpatients Treated [4] Gyn	Outpatient Visits OB	Outpatient Visits Gyn	Asst. Res. and Residencies [5]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
St. Joseph's Hospital ★[3]	Baltimore	H. B. McNally and T. K. Galvin	OBG	1,506	991	3,217	1,030	3	7/1	1-3	50.00
Sinai Hospital ★[2,4]	Baltimore	A. F. Guttmacher	OB	2,462	.....	.....	.....	3	7/1	1-3	35.00
South Baltimore General Hospital ★[1,4]	Baltimore	F. Kaltreider	OB†	834	.....	770	.....	1	7/1	1	.....
Union Memorial Hospital ★[1]	Baltimore	J. M. Haws	OB	1,192[b]	.....	2,416[b]	.....	2	7/1	1	.....
University Hospital ★[3,4]	Baltimore	L. H. Douglass	OB	2,203	.....	12,688	.....	4	7/1	1-2	75.00
		J. M. Hundley Jr.	Gyn	.....	916	.....	5,778	6	7/1	1-2	75.00
West Baltimore General Hospital ★[1,4]	Baltimore	D. M. Dixon and C. W. Vest	OBG†	1,711	467	1,541	218	2	.....	1	.....
Boston City Hospital ★[3,4]	Boston	H. V. Hyde and F. L. Good	OBG	1,976	1,916	5,484	4,649	2	.....	1-2	50.00
Boston Lying-In Hospital [3,24]	Boston	F. C. Irving	OB	2,754	.....	579	.....	9	1/1, 7/1	1+	50.00
Carney Hospital ★[2]	Boston	L. E. Phaneuf	OBG	983	768	2,156	685	3	7/1	1-2	.....
Evangeline Booth Maternity Hospital and Home [1,4]	Boston	A. K. Paine	OB	781	.....	3,230	.....	2	4/1, 7/1	1	83.33
Massachusetts Memorial Hospitals ★[2,4]	Boston	C. W. Sewall	OB	1,338	.....	4,101	.....	2	7/1	1-2	50.00
New England Hospital for Women and Children ★[1,4]	Boston	M. Woodman	OB†	2,342	.....	5,071	.....	1	1/1	1	50.00
Free Hospital for Women [3,4]	Brookline, Mass.	F. A. Pemberton	Gyn	.....	2,338	.....	11,407[b]	8	.....	1	.....
Cambridge City Hospital ★[2]	Cambridge, Mass.	F. J. Lynch	OBG†	1,847	684	1,797	324	1	1/1	1-3	58.33
St. Joseph's Mercy Hospital ★[2]	Ann Arbor, Mich.	W. Belser and H. H. Cummings	OBG†	1,161	454	.....	.....	1	.....	2	125.00
University Hospital ★[3,4]	Ann Arbor, Mich.	N. F. Miller	OBG	1,143	763	7,918		5	.....	1	101.40
City of Detroit Receiving Hospital ★[3,4]	Detroit	W. Seeley	OBG	e	800	e	2,771	2	7/15	1-4	149.67
Florence Crittenton Hospital [3,4]	Detroit	H. A. Pearse	OBG	1,520	.....	.....	.....	5	.....	1-3	110.00
Grace Hospital ★[3,4]	Detroit	O. W. Pickard	OBG	2,387	1,883	45	1,306	6	7/1	1-3	75.00
Harper Hospital ★[3,4]	Detroit	W. F. Seeley	OBG	2,422[b]	984[b]	.....	.....	5	.....	1	113.00
Henry Ford Hospital ★[3,4]	Detroit	J. P. Pratt	OBG	1,763	837	6,999	16,555	4	7/1	1-4	200.00
Herman Kiefer Hospital [3,4]	Detroit	W. F. Seeley	OBG	1,907	f	.....	f	1	7/1	1-4	153.00
Mt. Carmel Mercy Hospital ★[3]	Detroit	C. N. Swanson	OB	4,795	.....	.....	.....	4	7/1	1-4	100.00
Providence Hospital ★[3]	Detroit	R. Alles	OBG	3,184	1,421	.....	.....	4	.....	1	.....
St. Joseph's Mercy Hospital ★[1]	Detroit		OBG†	1,757	1,265	.....	368	1	.....	1	200.00
St. Mary's Hospital ★[3]	Detroit	V. J. Turcotte	OBG	1,927	1,183	152	352	6	.....	3	140.00
Woman's Hospital ★[3,4]	Detroit	L. E. Daniels and H. M. Nelson	OBG	2,999	.....	.....	.....	4	7/1	1-4	100.00
Butterworth Hospital ★[2,4]	Grand Rapids, Mich.	L. S. Griffith	OBG†	3,450	1,080	.....	927	3	7/1	1-3	100.00
St. Mary's Hospital ★[2]	Grand Rapids, Mich.	J. H. Beaton	OBG†	2,177	650	.....	.....	1	.....	1	.....
Saginaw General Hospital ★[3]	Saginaw, Mich.	C. E. Toshach	OB†	1,503	.....	.....	.....	3	7/1	1-2	75.00
St. Mary's Hospital ★[2]	Duluth, Minn.	J. R. Moe	OB	1,430[b]	.....	.....	.....	1	.....	1	.....
Abbott Hospital [1]	Minneapolis	R. E. Swanson	OB†	584	.....	.....	.....	1	.....	1	.....
Maternity Hospital [1]	Minneapolis	A. W. Arnold	OB†	1,030	.....	2,498	.....	2	Varies	1	.....
Minneapolis General Hospital ★[3,4]	Minneapolis	L. A. Lang	OBG	394	472	1,270	1,193	1	1/1, 7/1	1-3	100.00
Northwestern Hospital ★[3]	Minneapolis	S. Solhaug	OBG†	1,325	1,134	.....	.....	1	.....	1	150.00
St. Barnabas Hospital ★[1,4]	Minneapolis	I. L. Cameron	OBG†	1,936	550	.....	.....	1	.....	1	.....
St. Mary's Hospital ★[1]	Minneapolis	L. A. Lang	OB	2,749	.....	.....	.....	1	11/1	1	150.00
University Hospitals ★[3,4]	Minneapolis	J. L. McKelvey	OBG	344	571	688	2,833	5	7/1	1	100.00
Mayo Foundation [2]	Rochester, Minn.	R. D. Mussey	OBG	(See page 1375)				12	.....	1	.....
Ancker Hospital ★[3]	St. Paul	A. G. Schulze	OBG	263	239	621	990	1	.....	3	91.50
Charles T. Miller Hospital ★[3]	St. Paul	R. S. Countryman and E. C. Hartley	OBG	2,108	611	1,349	814	2	1/1	1-3	100.00
Kansas City General Hospital No. 1 ★[3]	Kansas City, Mo.	P. A. Gempel	OBG	747	740	2,767	3,268	4	7/1	4	50.00
DePaul Hospital ★[2]	St. Louis	L. M. Riordan	OBG†	2,908	375	182		1	7/1	1-2	[illegible]
Homer G. Phillips Hospital ★[3,4]	St. Louis	T. K. Brown	OBG	1,682	1,055	.....	2,934	5	7/1	1	50.00
Jewish Hospital ★[3]	St. Louis	M. Meyerhardt and S. Soule	OBG	2,201		.....	.....	2	.....	1	50.00
Missouri Baptist Hospital ★[1]	St. Louis	J. B. O'Neill	OBG†	1,152	1,060	.....	.....	1	1/1	1	70.00
St. Louis City Hospital ★[3,4]	St. Louis		OBG	1,140	1,010	1,416	1,527	7	7/1	1	86.00
St. Louis Maternity Hospital [3,4]	St. Louis	W. Allen	OBG	3,144	k	5,492	k	3	7/1	1-3	25.00
St. Luke's Hospital ★[2]	St. Louis	O. S. Krebs	OBG	919	589	.....	.....	1	7/1	1	75.00
St. Mary's Group of Hospitals ★[3]	St. Louis	J. A. Hardy Jr.	OBG		5,168		13,009	8	Varies	3	35.00
Creighton Memorial St. Joseph's Hosp. ★[2,4]	Omaha	M. E. Grier	OBG	1,706	1,321	1,449	1,202	1	7/1	1-2	100.00
University of Nebraska Hospital ★[3,4]	Omaha	E. C. Sage	OBG	249	400	676	2,114	1	7/1	1-3	50.00
Cooper Hospital ★[2]	Camden, N. J.	A. B. Davis and G. B. German	OB	2,844	.....	8,888	.....	3	.....	1-3	83.33
Jersey City Hospital ★[3,4]	Jersey City, N. J.	T. Brennock	Gyn	.....	869	.....	4,163	2	Varies	1	35.00
Margaret Hague Maternity Hospital [3,4]	Jersey City, N. J.	S. A. Cosgrove	OB	9,370	.....	21,101	.....	17	Quarterly	1-3	50.00
Monmouth Memorial Hospital ★[1]	Long Branch, N. J.	R. A. MacKenzie	OB†	1,294	.....	333	.....	1	.....	1	.....
Paterson General Hospital ★[1]	Paterson, N. J.	H. H. Nye	OB†	1,774	.....	664	.....	1	.....	1	.....
Albany Hospital ★[2,4]	Albany, N. Y.	A. J. Wallingford	Gyn	.....	2,200	.....	.....	2	7/1	1	41.67
Anthony N. Brady Maternity Home [2,4]	Albany, N. Y.	A. L. Madden	OB	2,318	.....	2,740	.....	2	.....	2	100.00
Beth-El Hospital ★[2,4]	Brooklyn	A. Koplowitz	OB	2,943	.....	1,766	.....	2	7/1	1-2	100.00
Brooklyn Hospital ★[2,4]	Brooklyn	J. T. Wallace	OBG	1,538	523	3,158	1,423	2	7/1	1-2	25.00
Brooklyn Women's Hospital [1]	Brooklyn	A. Koplowitz	OBG†	1,698	1,286	240	752	2	1/1	1	125.00
Cumberland Hospital ★[1,4]	Brooklyn	S. Lubin	OB	971	.....	3,316	.....	1	7/1	1	70.00
		S. Lubin	Gyn†	.....	254	.....	876	1	7/1	1	70.00
Greenpoint Hospital ★[1,4]	Brooklyn	W. C. Meagher	OBG	926	593	3,952	2,886	3	7/1	1	120.00
Jewish Hospital ★[3,4]	Brooklyn		OBG	5,306	1,303	4,570	2,005	6	.....	1+	30.00
Kings County Hospital ★[3]	Brooklyn	C. Gordon and R. Garlick	OBG	3,549	3,253	13,037	4,011	4	7/1	1	120.00
Long Island College Hospital ★[3,4]	Brooklyn	W. A. Jewett	OBG	1,873	1,012	5,520	1,630	3	7/1	1-3	25.00
Methodist Hospital ★[3,4]	Brooklyn	G. H. Davis	OBG	2,405		5,963		4	.....	1	.....
Norwegian Lutheran Deaconesses' Home and Hospital ★[1,4]	Brooklyn	B. Harris	OB	1,461	.....	.....	.....	1	.....	1	.....
St. John's Hospital ★[3,4]	Brooklyn	C. Duncan	OBG	754	310	.....	493	3	7/1	1	50.00
St. Mary's Hospital ★[3,4]	Brooklyn	H. J. Goubeaud	OBG	1,446	565	2,831	646	2	1/21	1-2	50.00
Buffalo General Hospital ★[3,4]	Buffalo	C. L. Randall	OBG	989	1,095	2,016	1,211	8	7/1	1-4	25.00
Children's Hospital [2]	Buffalo	L. A. Siegel	OB	2,215	.....	.....	.....	1	.....	1	25.00
Edward J. Meyer Memorial Hospital ★[3,4]	Buffalo	E. G. Winkler	OBG	702	605	2,673	1,651	4	7/1	3	100.00
Millard Fillmore Hospital ★[3]	Buffalo	L. F. McLean	OB	3,451	.....	.....	.....	2	7/1	1-4	50.00
		.....	Gyn†	.....	1,394	.....	.....	2	7/1	1	50.00
Queens General Hospital ★[2,4]	Jamaica, N. Y.	E. A. Fleming	OBG	1,627	1,023	5,028	1,906	2	.....	3	70.00
Bellevue Hospital, Div. III—N. Y. Univ. ★[3,4]	New York City	W. E. Studdiford	OBG	1,538	2,000	10,233	5,500	13	7/1	1	45.00
Beth Israel Hospital ★[1,4]	New York City	E. G. Langrock	OB†	2,663	.....	2,091	.....	3	7/1	1-3	50.00
		H. C. Falk	Gyn	.....	1,009	.....	3,480	2	7/1	1-3	50.00
Bronx Hospital ★[1,4]	New York City	M. Rosensohn	OB†	2,755	.....	1,908	.....	2	7/1	1-3	75.00
Flower and Fifth Avenue Hospitals ★[3,4]	New York City	L. S. Lolzeaux	OBG	1,765	1,258	3,736	.....	2	7/1	1	.....
Fordham Hospital ★[1,4]	New York City	A. C. Butts	OB	905	.....	.....	.....	1	7/1	1	120.00
French Hospital ★[2,4]	New York City	H. O. Williamson	OB	1,876	.....	4,976	.....	1	.....	1	.....
Harlem Hospital ★[3,4]	New York City	F. A. Kassebohn	OB	2,907	.....	16,789	.....	3	1/1, 7/1	1	.....
		H. C. Falk	Gyn	.....	2,054	.....	7,740	3	4/1, 7/1	1	70.00

Numerical and other references will be found on page 1375.

12. OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6] OB	Inpatients Treated [6] Gyn	Outpatients Visits OB	Outpatients Visits Gyn	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Lenox Hill Hospital ★[2,4]	New York City	R. C. Van Etten and R. L. McCready	OB(G)†	1,562	680	.....	7,426	3	7/1	1+	50.00
Lincoln Hospital ★[2,4]	New York City	H. C. Ingraham	OBG	1,639	887	8,511	2,459	6	1/1, 7/1	2	70.00
Lying-In Hospital	New York City		OBG	(See New York Hospital)							
Metropolitan Hospital ★[2,4]	New York City	H. B. Safford	OBG	1,110	805	6,016	3,537	4	7/1	1	50.00
Morrisania City Hospital ★[2,4]	New York City	M. Goodfriend	OB	1,145	.....	5,591	.....	2	7/1	1	70.00
Mount Sinai Hospital ★[2,4]	New York City		Gyn	.....	.....	.....	.....	5	1/1, 7/1	1+	50.00
New York City Hospital ★[2,4]	New York City	K. Johnson and J. V. Ricci	OBG	870	791	6,117	2,610	4	7/1	1-3	70.00
New York Hospital ★[2,4]	New York City	H. J. Stander	OBG	6,105		19,827	11,693	12	7/1	1-5	12.50
New York Infirmary ★[2,4]	New York City	W. Ragland	OB	989	.....	3,872	.....	2	1/1	1	75.00
New York Polyclinic Medical School and and Hospital ★[2]	New York City	E. H. Denner	OB	1,217	.....	2,635	.....	1	.....	2	.....
		D. N. Barrows	Gyn	.....	953	.....	2,951	1	7/1	2	25.00
New York Post-Graduate Medical School and Hospital ★[2,4]	New York City	W. T. Dannreuther	Gyn	.....	579	.....	11,809	2	10/1	2	30.00
Presbyterian Hospital ★[2,4]	New York City	H. C. Taylor Jr.	OBG	3,623	1,458	17,287	11,764	12	.....	1-3	41.66
Roosevelt Hospital ★[2,4]	New York City	T. C. Peightal	Gyn	.....	899	.....	2,652	2	.....	1-2	.....
St. Clare's Hospital ★[2,4]	New York City	E. J. Davin	OBG†	1,555	502	2,842	2,647	1	1/1	2	25.00
St. Vincent's Hospital ★[2,4]	New York City	J. F. McGrath	OBG	1,913	969	4,414	1,940	2	7/1	1-3	50.00
Sloane Hospital for Women [2]	New York City			(See Presbyterian Hospital)							
Woman's Hospital [2,4]	New York City	A. H. Aldridge	OBG	2,640	2,090	8,114	17,939	12	1/1, 4/1	1-2	10.00
Genesee Hospital ★[3]	Rochester, N. Y.	S. R. Snow	OB†	1,011	.....	685	.....	1	.....	1	.....
Highland Hospital ★[1,4]	Rochester, N. Y.	J. B. Loder	OB	1,560	.....	273	.....	1	7/1	1-2	100.00
Rochester General Hospital ★[2,4]	Rochester, N. Y.	MacN. Wilkinson	OB	2,430	.....	962	.....	1	7/1	1-3	85.00
Strong Memorial and Rochester Municipal Hospitals ★[2,4]	Rochester, N. Y.	K. M. Wilson	OBG	1,733	1,343	2,718	3,242	4	7/1	1-4	41.66
General Hospital ★[1]	Syracuse, N. Y.	R. J. Pieri	OB(G)†	1,449	199	1,057	249	2	7/1	1	50.00
Syracuse Memorial Hospital ★[3]	Syracuse, N. Y.	E. C. Hughes	OB	1,993	.....	.....	.....	4	7/1	1-2	.....
		C. E. Clark	Gyn	.....	1,148	.....	.....	3	7/1	1-2	.....
Charlotte Memorial Hospital ★[1,4]	Charlotte, N. C.	E. W. Franklin Jr.	OBG	1,085	758	2,060	.....	1	7/1	1	75.00
Duke Hospital ★[2,4]	Durham, N. C.	B. Carter	OBG	1,795	1,073	10,336	15,957	6	7/1	1	83.33
Watts Hospital ★[1]	Durham, N. C.	E. B. Easley	OBG†	1,098	827	604	100	1	7/1	1	75.00
James Walker Memorial Hospital ★[1]	Wilmington, N. C.		OB†	2,447	.....	.....	.....	1	12/1	1	100.00
North Carolina Baptist Hospital ★[2,4]	Winston-Salem, N. C.	F. R. Lock	OBG	1,376	537	1,049	1,661	5	.....	1-3	.....
City Hospital ★[1]	Akron, Ohio		OBG	3,924	1,471	.....	.....	4	.....	1	100.00
Peoples Hospital ★[1,4]	Akron, Ohio	L. L. Bottsford	OB†	2,691	.....	139	.....	2	2/1	1-2	150.00
St. Thomas Hospital ★[1]	Akron, Ohio	H. H. Gibson	OB†	1,970	.....	208	.....	1	.....	1	.....
Aultman Hospital ★[1,4]	Canton, Ohio	J. Scott	OBG†	2,731	631	.....	.....	6	7/1	1-4	75.00
Mercy Hospital ★[1]	Canton, Ohio	L. E. Leavenworth	OBG	1,576	419	.....	.....	6	1/1, 7/1	1-3	100.00
Bethesda Hospital ★[1,4]	Cincinnati	D. J. Davies and R. Eddy	OBG†	2,531	923	.....	55	3	1/1, 7/1	2-3	150.00
Cincinnati General Hospital ★[2,4]	Cincinnati	H. L. Woodward	OB	2,598	.....	3,459	.....	4	7/1	1-2	.....
City Hospital ★[2,4]	Cleveland	A. A. Bill	OB	1,345	.....	1,810	.....	4	7/1	1-4	60.00
Fairview Park Hospital ★[1]	Cleveland	E. D. Saunders	OB	2,312	.....	30	.....	2	7/1	1	125.00
Lutheran Hospital ★[1,4]	Cleveland	R. S. Dial	OB	1,382	.....	.....	.....	1	7/1	1-2	125.00
Mount Sinai Hospital ★[2,4]	Cleveland	J. L. Bubis	OB	1,686	.....	264	.....	1	7/1	1	100.00
		J. L. Bubis	Gyn†	.....	755	.....	407	1	7/1	1	100.00
St. Ann's Maternity Hospital [3]	Cleveland	J. R. Thompson	OB	2,027	.....	391	.....	3	.....	1	100.00
St. John's Hospital ★[1]	Cleveland	C. A. O'Connell	OB†	1,679	.....	441	.....	2	7/1	3	100.00
St. Luke's Hospital ★[3]	Cleveland	C. T. Hemmings	OBG	2,356	855	1,558	1,450	4	6/25	4	60.00
University Hospitals ★[2,4]	Cleveland	A. H. Bill	OB	4,131	.....	16,141	.....	5	7/1	1+	.....
		A. H. Bill	Gyn	.....	1,657	.....	5,335	5	7/1	1+	25.00
St. Ann's Maternity Hospital [3]	Columbus, Ohio	R. E. Krigbaum	OB†	1,195	.....	.....	.....	1	.....	1	.....
Starling-Loving University Hospital ★[2,4]	Columbus, Ohio	P. J. Reel	OBG	1,467	654	4,214	1,691	3	7/1	1-3	50.00
White Cross Hospital ★[2,4]	Columbus, Ohio	W. D. Inglis	OB	2,531	.....	.....	.....	2	1/1	1-2	100.00
Miami Valley Hospital ★[1]	Dayton, Ohio	J. K. Hoerner	OB†	2,895	.....	1,296	.....	1	7/1	1-3	75.00
Huron Road Hospital ★[2,4]	East Cleveland, Ohio	A. G. Cummings and G. H. Irvin Jr.	OBG	2,723	1,357	20	79	5	.....	1-4	80.00
Lakewood Hospital ★[1]	Lakewood, Ohio	B. Wylie	OB†	1,032	.....	.....	.....	1	7/1	1	100.00
Maumee Valley Hospital ★[1]	Toledo, Ohio	E. C. Mohr	OBG	329	291	408	271	1	7/1	1	150.00
Mercy Hospital ★[1]	Toledo, Ohio	R. C. King and J. Miller	OBG	2,230	1,061	.....	.....	1	.....	1	.....
St. Vincent's Hospital ★[1,4]	Toledo, Ohio	M. W. Diethelm	OB	1,324	.....	226	.....	1	.....	1	.....
Toledo Hospital ★[1,4]	Toledo, Ohio	M. D. Haag	OBG†	2,356	659	744	30	1	7/1	3	125.00
St. Elizabeth's Hospital ★[1]	Youngstown, Ohio	A. J. Brandt	OBG†	2,167	893	25	82	1	.....	1	.....
University Hospitals ★[3]	Oklahoma City	J. B. Eskridge and G. Penick	OBG	923	511	3,887	3,472	3	7/1	1-3	35.00
Emanuel Hospital ★[1]	Portland, Ore.	M. M. Wilson	OBG†	4,024	1,183	.....	.....	2	1/1, 7/1	1+	75.00
Good Samaritan Hospital ★[1]	Portland, Ore.	T. W. Adams	OB†	1,642	.....	.....	.....	1	.....	1	.....
Univ. of Oregon Med. School Hospitals and Clinics ★[2,4]	Portland, Ore.	H. C. Stearns	OBG	466	378	2,295	1,902	4	7/1	3	75.00
Bryn Mawr Hospital ★[1]	Bryn Mawr, Pa.	C. A. Behney and J. L. Richards	OBG†	236	143	1,115	443	1	7/1	1	100.00
George F. Geisinger Memorial Hospital ★[1]	Danville, Pa.	R. E. Nicodemus	OB	1,056	.....	7,940	.....	2	Varies	1	75.00
Episcopal Hospital ★[2,4]	Philadelphia	E. A. Schumann	OBG	2,550	774	6,639	1,385	2	.....	1-2	50.00
Germantown Dispensary and Hospital ★[1]	Philadelphia	J. C. Hartman and Z. B. Newton	OB†	1,760	.....	2,972	.....	1	7/1	1-2	50.00
Graduate Hosp. of the Univ. of Penna. ★[3]	Philadelphia	R. Kimbrough	Gyn	.....	531	.....	971	1	7/1	1-2	.....
Hahnemann Hospital ★[2,4]	Philadelphia	N. F. Paxson and E. C. Hessert	OBG	2,606	1,114	6,052	2,233	2	.....	1-2	.....
Hospital of the Univ. of Pennsylvania ★[3,4]	Philadelphia	F. L. Payne and C. Bachman	OBG	2,008	1,826	9,098	4,288	5	Varies	1-5	41.50
Hospital of the Women's Medical College of Pennsylvania ★[2,4]	Philadelphia		OB†	900	.....	.....	.....	1	7/1	1-2	50.00
		M. De W. Pettit	Gyn	.....	566	.....	1,127	1	7/1	1-2	50.00
Jefferson Medical College Hospital ★[3]	Philadelphia	L. C. Scheffey and N. W. Vaux	OBG	1,838	2,089	13,169	4,650	5	.....	1	.....
Jewish Hospital ★[2,4]	Philadelphia		OBG†	1,064[b]	1,070[b]	.....	.....	1	.....	1-2	.....
Lankenau Hospital ★[2]	Philadelphia	R. B. Wilson	OB†	918	.....	4,370	.....	1	7/1	1-3	100.00
Mount Sinai Hospital ★[2,4]	Philadelphia		OBG	1,026	579	1,722	1,104	1	6/1	1-2	50.00
Pennsylvania Hospital ★[3]	Philadelphia	C. B. Lull	OBG	3,045	1,298	13,106		6	1/1, 7/1	3	20.00
Philadelphia General Hospital ★[3,4]	Philadelphia		OBG	2,034	1,214	.....	.....	3	.....	1-3	70.00
Temple University Hospital ★[3,4]	Philadelphia	J. R. Willson	OBG	1,901	791	4,015	1,765	4	7/1	3	50.00
Woman's Hospital ★[1,4]	Philadelphia		OB	1,432	.....	.....	.....	1	7/1, 11/1	1	100.00
			Gyn	.....	571	.....	.....	1	7/1, 11/1	1	100.00
Women's Homeopathic Hospital ★[1]	Philadelphia	W. Mercer and I. Rigberg	OBG†	690	358	2,307	657	1	10/1	1	150.00
Elizabeth Steel Magee Hospital [3,4]	Pittsburgh	C. J. Barone and B. Z. Cashman	OBG	4,165	2,283	2,683	1,044	6	7/1	3	41.67
Montefiore Hospital ★[1]	Pittsburgh	C. J. Barone and S. Goldstein	OBG	896	574	703	811	1	.....	1	.....

Numerical and other references will be found on page 1375.

12. OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6] OB	Inpatients Treated [6] Gyn	Outpatients Visits OB	Outpatients Visits Gyn	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
St. Francis Hospital ★[3,4]	Pittsburgh	J. H. Carroll	OB	1,645	.....	357	.....	2	.....	3	100.00
		B. Z. Cashman	Gyn	.....	734	.....	654	2	.....	3	100.00
St. Margaret Memorial Hospital ★[1]	Pittsburgh	P. Titus	OBG†	416	348	209	159	1	7/1	1	100.00
Reading Hospital ★[1,4]	Reading, Pa.	H. Muhlenberg and F. B. Nugent	OBG†	1,908	741	346	321	1	7/1	1	125.00
Providence Lying-In Hospital [1]	Providence, R. I.	A. L. Potter	OB†	1,745	.....	9,624	.....	2	2/1	1	125.00
Roper Hospital ★[3,4]	Charleston, S. C.	L. A. Wilson and F. G. Cain	OBG	1,736	585	5,074	2,541	6	7/1	1-4	25.00
Baroness Erlanger Hospital ★[1,4]	Chattanooga, Tenn.	E. F. Buchner	OB	3,412	.....	4,568	.....	4	7/1	1	75.00
John Gaston Hospital ★[3]	Memphis, Tenn.	F. E. Whitacre	OB	2,950	.....	7,401	.....	2	7/1	1	32.50
		F. E. Whitacre	Gyn	.....	843	.....	5,676	3	7/1	1	32.50
Methodist Hospital ★[1,4]	Memphis, Tenn.		OB†	2,421	.....	.....	.....	1	.....	1	.....
St. Joseph Hospital ★[1]	Memphis, Tenn.	M. J. Roach	OBG†	1,828	1,207	950	410	1	7/1	1	.....
George W. Hubbard Hospital of Meharry Medical College ★[2]	Nashville, Tenn.	R. S. Duke	OBG	489	365	564	1,932	1	7/1	1	75.00
Nashville General Hospital ★[1]	Nashville, Tenn.	L. F. Coxe	OBG	1,009	603	6,647	6,709	5	7/1	1	.....
Vanderbilt University Hospital ★[3,4]	Nashville, Tenn.	G. S. McClellan	OBG	1,888	563	7,448	5,441	5	7/1	1	.....
Baylor University Hospital ★[3,4]	Dallas, Texas	W. K. Strother Jr.	OBG	4,747	1,070	.....	.....	3	7/1	1-3	50.00
Parkland Hospital ★[3,4]	Dallas, Texas	W. Mengert	OBG	.....	.....	.....	.....	5	.....	1	50.00
Hotel Dieu, Sisters Hospital (St. Joseph's Maternity Hospital) [1]	El Paso, Texas	E. C. Bernell	OBG†	944	146	5,489	1,114	1	1/1	1	150.00
Harris Memorial Methodist Hospital ★[1,4]	Fort Worth, Texas	R. L. Grogan	OBG†	2,980	1,181	1,152	1,378	2	7/1	1-3	100.00
John Sealy Hospital ★[3,4]	Galveston, Texas	W. R. Cooke	OBG	940	716	10,494		4	.....	1-3	50.00
Hermann Hospital ★[3,4]	Houston, Texas	A. L. Dippel and E. W. Bertner	OBG	1,259	1,123	4,435	2,250	3	7/1	1-3	50.00
Jefferson Davis Hospital ★[2,4]	Houston, Texas	J. Z. Gaston and C. Hamilton	OBG†	1,426[b]	803[b]	4,396[b]	3,114[b]	2	7/1	1	50.00
Memorial Hospital [2]	Houston, Texas		OBG	2,085	.....	.....	.....	2	.....	1	.....
Methodist Hospital ★[3,4]	Houston, Texas	D. V. Wachsman and J. A. Wall	OB(G)†	878	511	1,882	82	3	7/1	1-3	75.00
St. Joseph's Infirmary [2]	Houston, Texas	A. M. Faris	OB	5,385	.....	870	.....	3	.....	1-2	.....
Thomas D. Dee Memorial Hospital ★[1]	Ogden, Utah	V. L. Ward	OB†	2,639	.....	387	.....	2	.....	1	.....
Dr. W. H. Groves Latter-Day Saints Hospital ★[3]	Salt Lake City	W. M. Nebeker	OBG†		4,535	.....	.....	3	7/1	1-3	100.00
Holy Cross Hospital ★[1,4]	Salt Lake City	J. R. Wherritt	OB†	1,991	.....	.....	.....	1	7/1	1-3	125.00
Salt Lake County General Hospital ★[1,4]	Salt Lake City	E. G. Holmstrom	OBG	453	337	1,320	732	2	7/1	1	25.00
Mary Fletcher Hospital ★[3]	Burlington, Vt.	H. A. Durfee	OBG†	909	480	421	279	2	Varies	1	.....
Alexandria Hospital ★[1,4]	Alexandria, Va.	H. Picot	OBG†	1,604	570	.....	.....	2	7/1	1-2	125.00
University of Virginia Hospital ★[3,4]	Charlottesville, Va.	T. J. Williams	OBG	1,606		7,581		4	7/1	1-4	62.00
DePaul Hospital ★[1,4]	Norfolk, Va.	J. R. Kight	OBG	2,004	991	116	155	1	.....	1	.....
Norfolk General Hospital ★[1,4]	Norfolk, Va.	C. J. Andrews	OB†	1,548	.....	267	.....	1	7/1	1	75.00
Medical College of Virginia, Hosp. Div. ★[3,4]	Richmond, Va.	H. H. Ware Jr.	OB	3,760	.....	7,280	.....	3	7/1	1	46.50
Providence Hospital ★[1]	Seattle	E. B. Brookbank	OB	2,526	.....	304	.....	1	7/1	1	100.00
Swedish Hospital ★[1]	Seattle	W. W. Bell	OBG†	.....	1,329	.....	.....	1	.....	1	.....
Virginia Mason Hospital ★[1]	Seattle		OBG†	1,447	493	.....	.....	1	.....	1	75.00
Northern Permanente Foundation ★[1]	Vancouver, Wash.	D. G. Wiley	OBG	801[b]	1,152[b]	6,283[b]	10,769[b]	1	.....	1	.....
St. Mary's Hospital ★[1,4]	Huntington, W. Va.	J. R. Bloss	OB	1,533	.....	512	.....	1	7/1	1	100.00
State of Wisconsin General Hospital ★[3,4]	Madison, Wis.	J. W. Harris	OBG	355	703	7,715		4	7/1	3	25.00
Milwaukee County Hospital ★[3,4]	Milwaukee	R. S. Cron	OBG	320	414	916	904	2	Varies	1-3	75.00
Milwaukee Hospital ★[3]	Milwaukee	H. W. Shutter and R. S. Cron	OBG†	1,997	863	.....	.....	2	.....	3	70.00
St. Joseph's Hospital ★[3]	Milwaukee	H. J. Olson	OB	3,522	.....	.....	.....	2	.....	1-3	75.00
Kapiolani Maternity and Gynecological Hospital [1]	Honolulu, Hawaii	L. G. Phillips	OB	3,170	.....	.....	.....	2	7/1	1	150.00

Hospitals, 292; Assistant Residencies and Residencies, 963

13. OCCUPATIONAL MEDICINE

Approval of residencies in Occupational Medicine has been authorized by the American Medical Association. Institutions desiring residency approval in this field should make application to the Council on Medical Education and Hospitals, 535 N. Dearborn Street, Chicago 10, Illinois.

14. OPHTHALMOLOGY AND OTOLARYNGOLOGY

United States Army.—Residencies available to medical officers, U. S. Army.
Letterman General Hospital ★(Otol).....San Francisco
Fitzsimons General Hospital ★(Otol).....Denver
William Beaumont General Hospital ★(Otol).....El Paso, Texas
†Brooke General Hospital ★(Otol).....San Antonio, Texas

United States Navy.—Residencies available to medical officers, U. S. Navy.
†U. S. Naval Hospital ★(Otol).....Bethesda, Md.
†U. S. Naval Hospital ★(Otol).....Philadelphia

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6] Oph	Inpatients Treated [6] Otol	Outpatient Visits Oph	Outpatient Visits Otol	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Jefferson and Hillman Hospital ★	Birmingham, Ala.	G. E. Fisher	Otol	.....	813	.....	2,104	2	1/1	1+	$ 50.00
†Baptist State Hospital ★	Little Rock, Ark.	K. W. Cosgrove	Otol	.....	1,245	.....	1,056	3	Varies	3	.....
Children's Hospital	Los Angeles	J. M. Brown	Otol	.....	966	.....	2,080	1	.....	1	.....
Los Angeles County Hospital ★[4]	Los Angeles	W. J. Endres	Oph	845	.....	9,451	.....	2	Varies	2	157.20
		P. Viole	Otol	.....	1,912	.....	6,593	2	Varies	2	157.20
White Memorial Hospital ★	Los Angeles	W. A. Boyce	Oph	168	.....	7,472	.....	1	.....	1	120.00
		B. N. Colver	Otol	.....	1,049	.....	9,354	2	.....	1-3	120.00
San Diego County General Hospital ★	San Diego, Calif.	M. P. Kope and C. W. Brown	OpOt		517	1,811	1,202	2	7/1	1	215.00
Children's Hospital ★[4]	San Francisco	R. C. Martin	OpOt		1,070		1,946	1	7/1	1-2	50.00
Green's Eye Hospital	San Francisco	V. V. Suglian	Oph	975	.....	60,941	.....	4	7/1	1-3	50.00
		L. Z. Fishman	Otol	.....	892	.....	10,375	1	7/1	1-3	50.00
San Francisco Hospital ★[4]	San Francisco		OpOt		483		.....	1	.....	1	100.00
Stanford University Hospitals ★[4]	San Francisco	H. Barkan	Oph	712	.....	7,282	.....	3	7/1	1-2	50.00
		R. C. McNaught	Otol	.....	822	.....	7,694	2	7/1	1-2	50.00
University of California Hospital ★[4]	San Francisco	F. C. Cordes	Oph	271	.....	9,074	.....	5	.....	1	50.00
		L. F. Morrison	Otol	.....	478	.....	5,005	3	7/1	1	50.00
Colorado General Hospital ★[4]	Denver	W. M. Bane	Oph	113	.....	6,757	.....	2	9/1	1-2	85.00
		F. R. Spencer	Otol	.....	271	.....	3,394	1	1/1	1	85.00

Numerical and other references will be found on page 1375.

14. OPHTHALMOLOGY AND OTOLARYNGOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [a] Oph	Inpatients Treated [a] Otol	Outpatient Visits Oph	Outpatient Visits Otol	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Grace-New Haven Community Hospital New Haven Unit *[4]	New Haven, Conn.	N. Canfield	Otol	...	786	.....	5,321	2	7/1	1	40.00
†Hospital of St. Raphael *	New Haven, Conn.	C. T. Flynn	Otol	.....	1,206	.....	164	1	7/1	1	75.00
Episcopal Eye, Ear and Throat Hospital *[4]	Washington, D. C.	J. N. Greear	Oph	1,465[b]	.....	18,092[b]	.....	4	1/1	2	25.00
		A. M. Zinkhan	Otol	.....	5,244[b]	.....	9,402[b]	4	1/1	2	25.00
Gallinger Municipal Hospital *[4]	Washington, D. C.	E. Cummings and S. Burtoff	OpOt	343		4,157		2	7/1	1-3	75.00
Grady Memorial Hospital *[4]	Atlanta, Ga.	A. V. Hallum and W. Warren	OpOt	351	1,034	8,755	8,941	7	7/1	1	20.00
†Veterans Administration Hospital	Chamblee, Ga.		Otol	.....	88	.....	185	1	7/1	1-3	275.00
Cook County Hospital *[4]	Chicago	J. Lebersohn	Oph	363	.....	14,212	.....	7	Varies	1-3	27.50
		J. Lifschutz	Otol	.....	2,023	.....	17,522	3	Varies	1-3	27.50
Illinois Eye and Ear Infirmary [4]	Chicago	P. C. Kronfeld	Oph	2,681	.....	49,524	.....	15	1/1	1½	None
		P. C. Kronfeld	Otol	.....	1,867	.....	24,761	8	1/1	1	None
Mercy Hospital-Loyola University Clinics *	Chicago	L. G. Hoffman	OpOt	119	1,030	857	971	1	.....	1-2	25.00
Michael Reese Hospital *[4]	Chicago	S. J. Meyer	Oph	526	.....	3,037	.....	2	.....	1	25.00
		W. Smiley	Otol	.....	2,040	.....	1,461	1	.....	1	25.00
Passavant Memorial Hospital *[4]	Chicago	D. Vail	Oph	219	.....	436	.....	2	.....[y]	1	None
		J. F. Delph	Otol	.....	178	.....	1,164	1	.....	1	None
Presbyterian Hospital *	Chicago	E. V. L. Brown	Oph	308	.....	4,836	.....	1	7/1	1-2	25.00
		S. A. Friedberg	Otol	.....	830	.....	3,605	2	7/1	1-2	25.00
Provident Hospital *[4]	Chicago	C. L. Forney	OpOt	.....	407	4,914	1,395	1	.....	1	.....
Research and Educational Hospitals *	Chicago	H. Beard	Oph	257	.....	5,863	.....	1	7/1	1-2	55.00
		F. E. Lederer	Otol	.....	519	.....	6,895	2	7/1	1-2	55.00
†St. Joseph Hospital *[4]	Chicago	J. M. Donegan	Oph	42	.....	750	.....	1	7/1	1	75.00
St. Luke's Hospital *[4]	Chicago	R. C. Gamble and W. H. Theobald	OpOt	.....	786	914	1,170	2	7/1	1-3	25.00
University of Chicago Clinics *	Chicago	A. Krause	Oph	146	.....	7,906	.....	4	7/1	1-4	25.00
		J. R. Lindsay	Otol	.....	427	.....	10,529	2	7/1	1-2	25.00
Wesley Memorial Hospital *[4]	Chicago	W. A. Mann	Oph	329	.....	.....	.....	2	1/1, 7/1	1-3	25.00
		T. P. O'Connor	Otol†	.....	1,374	.....	.....	1	Quarterly	1-3	25.00
†Veterans Administration Hospital	Hines, Ill.	W. A. Mann	Oph	391	.....	3,393	.....	2	7/1	1-3	303.00
			Otol	.....	612	.....	3,231	2	7/1	..	303.00
Indianapolis City Hospital *	Indianapolis	B. J. Larkin	Oph	207	.....	5,265	.....	2	.....	1-2	.....
		R. Dearmin	Otol	.....	649	.....	3,876	2	.....	1-2	.....
Indiana University Medical Center *[4]	Indianapolis	R. M. Masters	Oph	200	.....	2,397	.....	5	.....	1	33.33
		C. H. McCaskey	Otol	.....	440	.....	1,623	3	.....	1	33.33
University Hospitals *[4]	Iowa City	C. S. O'Brien	Oph	1,206	.....	4,884	.....	8	7/1	1	40.00
		D. M. Lierle	Otol	.....	2,108	.....	2,864	6	7/1	1	40.00
University of Kansas Hospitals *[4]	Kansas City, Kan.	S. E. Roberts	Otol	.....	863	.....	2,567	1	.....[y]	1	.....
†Veterans Administration Hospital	Topeka, Kan.	L. S. Powell	Otol	.....	171	.....	370	2	Varies	1	245.80
Louisville General Hospital *	Louisville, Ky.	D. Townes	OpOt	181	247	4,546	3,103	3	4/1	1-2	45.00
Charity Hospital of Louisiana *[4]	New Orleans		OpOt	1,351	2,710	12,677	15,260	13	7/1	1-3	25.00
Eye, Ear, Nose and Throat Hospital [4]	New Orleans	W. R. Buffington	Oph	1,898	.....	16,378	.....	6	7/1	1	.....
		F. E. LeJeune	Otol	.....	3,980	.....	21,279	6	7/1	1	.....
Touro Infirmary *	New Orleans	E. E. Allgeyer and D. Womack	OpOt	54	1,039	1,470	1,451	1	7/1	1	17.50
†U. S. Marine Hospital *	New Orleans	L. M. Smith	Otol	.....	407	.....	1,113	1	Varies	1-2	190.50
†Veterans Administration Hospital	New Orleans		Otol	.....	512	.....	332	2	Varies	1-3	275.00
Baltimore Eye, Ear and Throat Charity Hospital [4]	Baltimore		OpOt	4,116		11,409	6,899	4	1/1, 7/1	1-2	10.00
Johns Hopkins Hospital *[4]	Baltimore	A. C. Woods	Oph	1,573	.....	18,008	.....	6	7/1	1+	.....
		S. J. Crowe	Otol	.....	1,247	.....	12,876	4	7/1	1+	.....
†South Baltimore General Hospital *	Baltimore	S. L. Fox	Otol	.....	896	.....	1,074	2	7/1	1-2	90.00
University Hospital *[4]	Baltimore	C. Clapp and E. A. Looper	OpOt	14	836	4,177	1,834	1	7/1	1-2	.....
Beth Israel Hospital *	Boston	G. B. Fred	Otol	.....	590	.....	2,210	1	10/1	1	41.66
Boston City Hospital *[4]	Boston	J. J. Regan and E. J. Monahan	OpOt	517	1,610	14,174	10,241	2	.....	1-2	50.00
Lahey Clinic	Boston	W. B. Hoover	Otol	.....	825[b]	.....	10,000[b]	2	.....	1-3	.....
Massachusetts Eye and Ear Infirmary [4]	Boston	E. B. Dunphy	Oph	3,032	.....	39,070	.....	8	Varies	2+	.....
		L. A. Schall	Otol	.....	3,244	.....	28,862	8	Varies	2+	.....
†Massachusetts Memorial Hospital *[4]	Boston	L. F. Johnson	Otol	.....	.....	.....	2,072	1	.....	1	50.00
Memorial Hospital *[4]	Worcester, Mass.	G. Berry	Otol	.....	1,713	.....	813	1	.....	1-2	100.00
University Hospital *[4]	Ann Arbor, Mich.	P. B. Fralick	Oph	526	.....	11,795	.....	6	Varies	1-2	101.40
		A. C. Furstenberg	Otol	.....	755	.....	8,712	6	Varies	1-2	101.40
City of Detroit Receiving Hospital *[4]	Detroit	P. Heath and J. M. Robb	OpOt	949		7,842		2	7/15	1+	140.67
Grace Hospital *	Detroit	R. S. Goux	OpOt	1,749		1,230	830	2	7/1	1-3	75.00
Harper Hospital *[4]	Detroit	J. M. Robb	OpOt	983[b]	3,119[b]	.....	.....	6	.....	1	113.00
Henry Ford Hospital *[4]	Detroit	E. J. Whitney	Oph	351	.....	16,020	.....	4	7/1	1-3	200.00
		J. L. Dill	Otol	.....	1,228	.....	16,555	3	7/1	1-3	200.00
Wayne County General Hosp. and Inf.*[4]	Eloise, Mich.	F. L. Ryerson	OpOt	421		2,178		2	7/1	1	197.50
Minneapolis General Hospital *[4]	Minneapolis	W. K. Haven and R. E. Priest	OpOt	240		2,660	1,750	2	1/1, 7/1	1-3	100.00
University Hospitals *[4]	Minneapolis	E. Hansen	Oph	242	.....	4,672	.....	5	.....	1	.....
		L. R. Boies	Otol	.....	382	.....	1,676	3	7/1	1-3	100.00
†Veterans Administration Hospital (Fort Snelling)	Minneapolis	H. V. Hanson	Otol	.....	334	.....	.....	2	Varies	1	200.00
Mayo Foundation	Rochester, Minn.	W. L. Benedict	Oph	.....	.....	.....	.....	8	.....	1	.....
		H. I. Lillie	Otol	(See page 1375)				10	.....	1	.....
Ancker Hospital *	St. Paul	L. T. Simons	OpOt	90	251	2,371	1,426	2	Varies	1-3	91.50
Charles T. Miller Hospital *	St. Paul	F. Burch	Oph	830	.....	3,880	.....	2	1/1	1-3	100.00
Children's Mercy Hospital	Kansas City, Mo.	A. J. Baer and E. Lacy	OpOt	44	432	390	1,522	1	.....	1	.....
Kansas City General Hospital No. 1 *	Kansas City, Mo.	A. W. McAlester and R. H. Underwood	OpOt	122	263	2,519	2,523	2	7/1	1-2	50.00
Barnes Hospital *[4]	St. Louis	L. T. Post	Oph	1,230	.....	14,561	.....	6	7/1	2½	10.00
		T. E. Walsh	Otol	.....	2,398	.....	12,407	7	7/1	1-2	25.00
Homer G. Phillips Hospital *	St. Louis	L. T. Post	OpOt	143	280	2,210	2,347	3	7/1	1	50.00
Jewish Hospital *[4]	St. Louis	S. B. Westlake	Otol	.....	346	.....	.....	1	.....[y]	1	50.00
St. Louis City Hospital *[4]	St. Louis	L. T. Post	Oph	105	.....	2,341	.....	2	7/1	2½	50.00
			Otol	.....	387	.....	1,929	1	7/1	2½	50.00
St. Mary's Group of Hospitals *	St. Louis	W. H. Luedde	Oph	216	.....	7,552	.....	3	Varies	3	33.00
		B. J. McMahon	Otol	.....	760	.....	4,515	4	Varies	3	33.00
University of Nebraska Hospital *[4]	Omaha	J. H. Judd	Oph	117	.....	1,195	.....	1	7/1	1-3	50.00
Jersey City Hospital *[4]	Jersey City, N. J.	F. X. Brophy and M. G. Borrone	OpOt	421	1,620	3,555	5,094	5	Varies	1-2	35.00
Newark City Hospital *	Newark, N. J.		Otol	.....	.....	.....	.....	1	.....	1	.....
Newark Eye and Ear Infirmary	Newark, N. J.	R. H. Rogers and W. M. Brien	OpOt	871	181	5,347	2,327	2	Varies	1	.....

Numerical and other references will be found on page 1375.

14. OPHTHALMOLOGY AND OTOLARYNGOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6]		Outpatient Visits		Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
				Oph	Otol	Oph	Otol				
Albany Hospital *[4]	Albany, N. Y.	H. K. Tebbutt Jr.	Otol	.....	986	.....	.....	2	7/1	1	41.67
Brooklyn Eye and Ear Hospital	Brooklyn	W. V. Moore	Oph	1,953	.....	45,103	.....	9	Varies	2	.....
		G. R. O'Brien	Otol	.....	2,762	.....	37,735	4	Varies	2	.....
Jewish Hospital *[4]	Brooklyn	E. L. Berger	Otol	.....	296	.....	3,683	1	.....	1	30.00
Kings County Hospital *	Brooklyn	W. Moehle	Oph	315	.....	8,448	.....	2	7/1	1-2	.....
		M. C. Myerson	Otol	.....	1,332	.....	3,595	2	7/1	1-2	70.00
Long Island College Hospital *[4]	Brooklyn	J. N. Evans	Oph	253	.....	4,300	.....	5	7/1	4	25.00
		C. R. Weeth	Otol	.....	456	.....	1,901	2	7/1	1-3	25.00
Buffalo General Hospital *	Buffalo	C. Cott	Otol	.....	801	.....	930	3	7/1	1-3	25.00
Edward J. Meyer Memorial Hospital *[4]	Buffalo	I. J. Koenig	Oph	82	.....	2,602	.....	4	7/1	3	100.00
		H. E. Bozer	Otol	.....	80	.....	1,547	1	7/1	3	100.00
Queens General Hospital *[4]	Jamaica, N. Y.	W. G. Frey	Oph	169	.....	2,805	.....	1	.....	1-2	70.00
		M. S. Bender	Otol	.....	845	.....	3,391	3	.....	1-2	70.00
New Rochelle Hospital *	New Rochelle, N. Y.	A. L. Beck	OpOt	1,385		770	691	2	7/1	1-3	100.00
Bellevue Hospital, Div. III—N. Y. Univ. *[4]	New York City	D. B. Kirby	Oph	433	.....	11,558	.....	6	Varies	1+	45.00
		J. F. Daly	Otol	.....	2,833	.....	13,194	6	Varies	1-2	45.00
†Beth Israel Hospital *	New York City	M. L. Som and S. Stein	Otol	.....	434	.....	2,467	1	4/1	1	50.00
†Bronx Eye and Ear Infirmary	New York City	W. M. Dunning	Otol	.....	2,666	.....	14,449	1	7/1	1	50.00
Flower and Fifth Avenue Hospitals *[4]	New York City	J. A. W. Hetrick	Otol	.....	360	.....	2,200	2	7/1	1	.....
Goldwater Memorial Hospital *[4]	New York City	J. W. Smith	Oph	1,060	.....	2,058	.....	3	7/1	1-2	50.00
Harlem Eye and Ear Hospital	New York City	C. B. Meding and E. Grabscheid	OpOt	484	1,850	15,679	17,636	3	.....	1	.....
Harlem Hospital *[4]	New York City	H. J. Burman	Otol	.....	709	.....	4,918	1	7/1	1	70.00
Institute of Ophthalmology	New York City			(Unit of Presbyterian Hospital)							
Lenox Hill Hospital *[4]	New York City	J. J. Reid	Oph	295	.....	5,195	.....	1	7/1	1½	50.00
		G. F. Oberrender	Otol†	.....	1,351	.....	973	1	1/1	1-2	50.00
Manhattan Eye, Ear and Throat Hospital [4]	New York City		Oph	2,432	.....	68,561	.....	10	Varies	2½	.....
			Otol	.....	7,868	.....	51,875	8	Varies	2	.....
Metropolitan Hospital *[4]	New York City	C. A. Turtz	Oph	53	.....	2,914	.....	1	7/1	1	.....
		J. A. W. Hetrick	Otol	.....	430	.....	3,164	1	1/1	1	100.00
†Morrisania City Hospital *	New York City	C. H. Smith	Otol	.....	865	.....	2,906	1	7/1	1	120.00
Mount Sinai Hospital *[4]	New York City		Oph	.....	.....	.....	.....	4	1/1, 7/1	1-2	50.00
			Otol	.....	.....	.....	.....	3	1/1, 7/1	1-2	50.00
New York City Hospital *[4]	New York City	H. B. Judd	Otol	.....	470	.....	3,799	1	7/1	1	120.00
New York Eye and Ear Infirmary [4]	New York City	C. Berens	Oph	6,698		64,482	.....	13	10/1	2+	.....
		S. Craig	Otol	.....	.....	.....	39,461	13	10/1	2+	.....
New York Polyclinic Medical School and Hospital *	New York City	C. E. McDannald and S. J. Kopetzky	OpOt	171	1,000	3,856	7,689	4	7/1	3	25.00
New York Post-Graduate Medical School and Hospital *	New York City	R. Aebli	Oph	296	.....	6,473	.....	3	4/1, 11/1	2	.....
		A. N. Nilsen	Otol	.....	602	.....	6,778	3	7/1, 8/1	2	.....
Presbyterian Hospital *[4]	New York City	J. M. Dunnington	Oph	2,496	.....	26,438	.....	9	.....	1-3	41.66
		J. D. Kernan	Otol	.....	2,229	.....	22,079	6	.....	1-3	41.66
Roosevelt Hospital *[4]	New York City	C. N. Harper	Otol	.....	639	.....	2,298	2	7/1	1-2	25.00
St. Luke's Hospital *	New York City	W. G. Frey	Oph	158	.....	7,470	.....	1	Varies	1½	50.00
		J. W. Fowlkes	Otol	.....	1,132	.....	8,184	3	Varies	1-3	50.00
Rochester General Hospital *[4]	Rochester, N. Y.	E. R. Vernou and E. J. Avery	OpOt	129	1,160	803	1,232	2	7/1	1-2	85.00
Strong Memorial-Rochester Municipal Hospitals *[4]	Rochester, N. Y.	J. F. Gipner	Oph	350	.....	5,382	.....	2	7/1	1-2	41.66
		C. A. Heatly	Otol	.....	1,014	.....	4,390	2	7/1	1-2	41.66
Sea View Hospital [4]	Staten Island, N. Y.	J. Gilbert	Otol	.....	2,147	.....	.....	2	1/1, 7/1	1	120.00
Syracuse University Medical Center *	Syracuse, N. Y.	G. D. Hoople	Otol	.....	500	.....	1,000	1	7/1	1-2	75.00
Grasslands Hospital *[4]	Valhalla, N. Y.	E. C. Wood	Oph	61	.....	2,549	.....	1	7/1	1-2	.....
		M. T. Smith	Otol	.....	176	.....	1,810	1	7/1	1-2	75.00
†Charlotte Memorial Hospital *	Charlotte, N. C.	V. K. Hart	Otol	.....	689	.....	.....	1	.....	1	.....
Duke Hospital *[4]	Durham, N. C.	W. B. Anderson and W. W. Eagle	OpOt	423	603	6,525	9,849	3	7/1	1	83.33
†North Carolina Baptist Hospital *	Winston-Salem, N. C.	J. A. Harrill	Otol	.....	482	.....	192	1	7/1	1-3	41.66
Cincinnati General Hospital *	Cincinnati	H. Reid	Oph	316	.....	6,459	.....	2	7/1	1-2	.....
		H. Goodyear	Otol	.....	681	.....	4,764	2	7/1	1-2	.....
City Hospital *[4]	Cleveland	G. L. Miller	Oph	150	.....	4,302	.....	2	7/1	1-4	60.00
		C. W. Engler	Otol	.....	535	.....	2,704	2	7/1	1-4	60.00
Cleveland Clinic Foundation Hospital [4]	Cleveland	P. M. Moore	Otol	.....	690	.....	12,442	4	7/1	1-3	100.00
St. Luke's Hospital *	Cleveland	M. W. Jacoby	Oph	269	.....	1,426	.....	1	6/25	1	90.00
		T. W. Thoburn	Otol	.....	1,924	.....	1,370	2	6/25	1-2	90.00
University Hospitals *[4]	Cleveland	A. B. Bruner	Oph	886	.....	5,107	.....	3	7/1	1+	25.00
		C. Pitkin	Otol	.....	1,006	.....	3,876	2	7/1	1+	25.00
Starling-Loving University Hospital *[4]	Columbus, Ohio	C. S. Perry	Oph	167	.....	1,496	.....	2	7/1	1-3	50.00
		H. G. Beatty	Otol	.....	242	.....	1,318	2	7/1	1-3	50.00
University Hospitals *	Oklahoma City	J. P. McGee and T. G. Walls	OpOt	168	349	2,228	1,334	2	7/1	1-2	35.00
University of Oregon Medical School Hospitals and Clinics *[4]	Portland, Ore.	K. C. Swan	Oph	242	.....	9,794	.....	4	7/1	3	75.00
		G. L. Boyden	Otol	.....	587	.....	3,567	1	7/1	1	75.00
†Veterans Administration Hospital	Portland, Ore.	R. A. Fenton	Otol	.....	172	.....	.....	2	10/1	1-2	275.00
†Veterans Administration Hospital	Aspinwall, Pa.	K. Day	Otol	.....	298	.....	.....	3	1/1, 7/1	3	.....
George F. Geisinger Memorial Hospital *[4]	Danville, Pa.	C. H. Jacobs	Oph	212	.....	4,252	.....	1	7/1	1	75.00
		F. W. Davison	Otol	.....	958	.....	8,738	1	7/1	1	75.00
Episcopal Hospital *[4]	Philadelphia	O. C. Hirst and J. A. Bertolet	Otol	.....	638	.....	2,863	1	.....	1	50.00
Graduate Hospital of the University of Pennsylvania *	Philadelphia	E. Spaeth	Oph	475	.....	3,240	.....	1	7/1	1-2	.....
		E. Campbell	Otol	.....	1,364	.....	3,840	2	7/1	1-2	.....
Hosp. of the University of Pennsylvania *[4]	Philadelphia	F. H. Adler	Oph	617	.....	6,622	.....	6	7/1	3	41.66
		H. P. Schenck	Otol†	.....	2,159	.....	4,827	3	7/1	1-3	41.66
Jefferson Medical College Hospital *	Philadelphia	H. J. Williams and L. H. Clerf	Otol	.....	1,914	.....	10,257	3	.....	1	.....
†Pennsylvania Hospital *	Philadelphia	E. H. Campbell	Otol	.....	766	.....	3,464	1	6/1, 7/1	1-2	20.00
Philadelphia General Hospital *[4]	Philadelphia		Oph	92	.....	.....	.....	1	.....	1-3	70.00
Temple University Hospital *[4]	Philadelphia	W. I. Lillie	Oph	332	.....	2,636	.....	4	7/1	3	50.00
		M. S. Ersner	Otol	.....	1,134	.....	2,530	1	7/1	3	50.00
Wills Hospital [4]	Philadelphia	F. C. Parker	Oph	4,129	.....	91,536	.....	12	Varies	1½	None
Eye, Ear, Nose and Throat Hospital [4]	Pittsburgh	J. G. Linn and J. H. McCready	OpOt	1,213	.....	4,375	.....	7	1/1	2	40.00
Mercy Hospital *[4]	Pittsburgh	W. L. Allison	Otol	.....	1,888	.....	1,713	2	9/1	1-3	.....
Knoxville General Hospital *	Knoxville, Tenn.	R. Leach	OpOt	351		805		1	7/1	1	60.00
†John Gaston Hospital *	Memphis, Tenn.	W. L. Simpson	Otol	.....	1,040	.....	3,981	2	7/1	1-2	50.00
Memphis Eye, Ear, Nose and Throat Hosp.	Memphis, Tenn.	E. C. Ellett and L. Levy	OpOt	3,142		8,806		4	.....	1	.....

Numerical and other references will be found on page 1375.

14. OPHTHALMOLOGY AND OTOLARYNGOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated [6] Oph	Inpatients Treated [6] Otol	Outpatient Visits Oph	Outpatient Visits Otol	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Nashville General Hospital *[4]	Nashville, Tenn.	J. C. Chambliss	OpOt	407[b]		3,763[b]		2	.....	1	.....
Vanderbilt University Hospital *[4]	Nashville, Tenn.	.....	Otol	.....	.....	.....	.....	1	.....	1	.....
Parkland Hospital *[4]	Dallas, Texas	J. G. Jones and J. D. Singleton	OpOt	.....	.....	.....	.....	1	.....	1	50.00
†Veterans Administration Hospital	Dallas, Texas	C. D. Winborn	Otol	.....	659	.....	2,625	1	5/1	2-3	262.00
John Sealy Hospital *[4]	Galveston, Texas	J. M. Robinson	Otol	.....	555	.....	3,923	2	.....	1-3	50.00
Jefferson Davis Hospital *[4]	Houston, Texas	E. W. Griffey	Oph	.....	.....	.....	.....	2	1/1	1	50.00
		W. Snow	Otol	.....	.....	.....	.....	1	9/1	1	50.00
University of Virginia Hospital *[4]	Charlottesville, Va.	E. W. Burton	Oph	285	.....	3,421	.....	4	7/1	3	50.00
		F. W. Woodward	Otol	.....	1,005	.....	4,828	4	7/1	1-4	62.00
Medical College of Virginia, Hosp. Div.*	Richmond, Va.	R. H. Courtney and P. N. Pastore	OpOt	330	501	4,396	2,639	5	7/1	1	46.50
Gill Mem. Eye, Ear and Throat Hospital [4]	Roanoke, Va.	E. G. Gill	OpOt	145	1,070	6,405	6,566	4	.....	1-2	150.00
King County Hospital *	Seattle	F. Wanamaker	OpOt	598		806	834	2	7/1	1	125.00
State of Wisconsin General Hospital *[4]	Madison, Wis.	F. A. Davis and W. M. Nesbit	OpOt	1,153		3,431		5	7/1	3	25.00
Milwaukee County Hospital *[4]	Milwaukee	T. P. McCormick and E. A. Waldeck	OpOt	172	273	3,461	1,190	6	Varies	1-3	75.00
†Veterans Administration Hospital	Milwaukee	W. E. Grove	Otol	.....	331	.....	2,145	3	7/1	1-3	275.00

Hospitals, 149; Assistant Residencies and Residencies, 630

15. ORTHOPEDIC SURGERY

The following services are approved by the Council and the American Board of Orthopedic Surgery (See footnotes ½ to 3 for number of years credit; also 14)

United States Army.—Residencies available to medical officers, U. S. Army.

- Letterman General Hospital *[2] (AFS)—San Francisco
- Fitzsimons General Hospital *[2] (AFS)—Denver
- Walter Reed General Hospital *[2] (AFS)—Washington, D. C.
- Percy Jones General Hospital *[2] (AFS)—Battle Creek, Mich
- †William Beaumont General Hospital *[2] (AFS)—El Paso, Texas
- Brooke General Hospital *[2] (AFS)—San Antonio, Texas
- Madigan General Hospital *[2] (AFS)—Fort Lewis, Wash.

United States Navy.—Residencies available to medical officers, U. S. Navy.

- †U. S. Naval Hospital *1½ (AF)—Long Beach, Calif.
- †U. S. Naval Hospital *[2] (AFS)—Oakland, Calif.
- †U. S. Naval Hospital *1½ (AF)—San Diego, Calif.
- †U. S. Naval Hospital *1½ (AF)—Great Lakes, Ill.
- U. S. Naval Hospital *1½ (AF)—Bethesda, Md.
- †U. S. Naval Hospital *[2] (AFS)—Chelsea, Mass.
- †U. S. Naval Hospital *[2] (AFS)—St. Albans, N. Y.
- U. S. Naval Hospital *[2] (AFS)—Philadelphia

Name of Hospital	Location	Chief of Service	Type of Training [11]	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Jefferson and Hillman Hospitals *[2,4]	Birmingham, Ala.	J. D. Sherrill	ACFS	1,764	3,306	38	5	2	7/1	1	.....
†Employees' Hospital of the Tennessee Coal, Iron and Railroad Company *½	Fairfield, Ala.	C. H. Wilson	F	337	4,922	4	4	1	7/1	1-3	$200.00
†City Hospital *2½	Mobile, Ala.	W. C. Hannon	ACF	475	761	16	..	1	.....	1	.....
†St. Monica's Hosp. and Health Center *½	Phoenix, Ariz.	J. L. Smith	F	1,478	5,872	..	..	1	7/1	1	150.00
Children's Hospital [1]	Los Angeles	J. C. Wilson	C	589	2,855	3	2	2	.....	1	.....
Los Angeles County Hospital *[2,4]	Los Angeles	V. P. Thompson	AFS	4,240	25,454	191	8	5	Varies	2	157.20
Orthopaedic Hospital [3]	Los Angeles	A. Brockway	ACFS	2,279	31,986	5	2	4	.....	2-3	150.00
White Memorial Hospital *[2]	Los Angeles	G. M. Taylor	AFS	447	6,173	..	..	4	.....	1-3	30.00
Highland-Alameda County Hospital *[2,4]	Oakland, Calif.	C. B. Fowler	ACFS	560	.....	47	5	2	7/1	1-3	155.00
Samuel Merritt Hospital [2]	Oakland, Calif.	H. H. Hitchcock	AFS	1,316	.....	13	3	2	4/1, 7/1	1-2	110.00
†San Diego County General Hospital *1½	San Diego, Calif.	F. MacPherson	AF	427	1,341	41	33	1	7/1	1	164.00
Children's Hospital *[1,4]	San Francisco	L. C. Abbott	C	353	2,216	..	1	1	6/1	1-2	50.00
Franklin Hospital *[1,4]	San Francisco	L. C. Abbott and F. C. Bost	A	521	.....	9	7	3	7/1	1	200.00
†St. Mary's Hospital *½	San Francisco	V. M. Dillon	F	999	.....	14	4	1	7/1	1	100.00
San Francisco Hospital *1½ [4]	San Francisco	F. C. Bost	AF	304	.....	6	2	2	.....	1	175.00
Shriners Hospital for Crippled Children [1]	San Francisco	F. C. Bost	C	40	2,012	..	..	1	.....	1+	100.00
†Stanford University Hospitals *[1,4]	San Francisco	D. E. King	A	569	3,690	4	1	2	7/1	1-2	50.00
University of California Hospital *[1,4]	San Francisco	L. C. Abbott	A	246	6,685	..	..	2	7/1	1	50.00
†Veterans Administration Hospital 1½	San Francisco	R. P. Watkins	AF	.....	.....	..	..	1	7/1	1	275.00
†Santa Clara County Hospital *1½	San Jose, Calif.	J. B. Josephson	AF	.....	.....	..	..	1	.....	1	185.00
†Veterans Administration Hospital [2]	Van Nuys, Calif.	J. H. Akles	AFS	560	4,300	1	1	4	1/1, 7/1	1-3	275.00
†Veterans Administration Center [2]	W. Los Angeles, Calif.	R. Mazet Jr.	AFS	510	14,856	..	..	4	7/1	1-2	275.00
Childrens Hospital [1,4,12]	Denver	.....	C	.....	.....	..	..	2	4/1	1-3	50.00
Colorado General Hospital *[2,4,12]	Denver	H. I. Barnard	AFS	63	1,139	..	..	1	1/1	1-3	85.00
Denver General Hospital *1½ [4,12]	Denver	F. E. Rogers	AF	1,637	2,053	83	47	1	4/1	1-2	50.00
†St. Luke's Hospital *[1,12]	Denver	R. G. Packard	A	481	.....	12	2	1	7/1	1	50.00
†Veterans Administration Hospital 1½	Fort Logan, Colo.	.....	AF	.....	.....	..	..	2	Varies	1-3	275.00
†Corwin Hospital *½ [12]	Pueblo, Colo.	D. W. Boyer	F	809	16,402	13	10	1	7/1	1	75.00
†Hartford Hospital *[2,4]	Hartford, Conn.	J. H. T. Sweet	AFS	1,411	.....	21	10	2	7/1	1-2	50.00
Grace-New Haven Community Hospital New Haven Unit *[2,4]	New Haven, Conn.	M. Eyeleth	AFS	512	10,759	..	..	2	7/1	1-2	40.00
†Hospital of St. Raphael *1½	New Haven, Conn.	D. S. O'Connor	AF	550	293	19	1	1	7/1	1+	75.00
Newington Home for Crippled Children [1,4]	Newington, Conn.	R. M. Yergason	C	242	1,780	1	1	2	1/1, 7/1	1	200.00
Alfred I. du Pont Institute of the Nemours Foundation [1,4]	Wilmington, Del.	A. R. Shands Jr.	C	121	1,536	..	..	3	7/1	1-3	75.00
Central Dispensary and Emergency Hosp. [1]	Washington, D. C.	F. M. Hand	A	1,252	1,099	20	..	3	7/1	1	50.00
Freedman's Hospital *[2,4]	Washington, D. C.	J. Neviaser	ACFS	249	3,908	8	1	1	7/1	1-3	75.00
Gallinger Municipal Hospital *[2,4]	Washington, D. C.	M. C. Cobey	AC	421	3,585	26	3	2	7/1	1-3	75.00
†Hope Haven Hospital [1]	Jacksonville, Fla.	J. P. Lovejoy and F. L. Fort	C	156	500	..	..	1	7/1	1	.....
†James M. Jackson Memorial Hospital *[1]	Miami, Fla.	A. Weiland	A	1,480	2,268	39	12	1	7/1	1	172.50
†Grady Memorial Hospital *[2]	Atlanta, Ga.	T. P. Goodwyn	AFS	787	7,214	23	..	1	7/1	1-3	30.00
Scottish Rite Hosp. for Crippled Children [1]	Decatur, Ga.	J. H. Kite	C	280	.....	1	..	1	1/1	1	150.00
†Veterans Administration Hospital [2]	Chamblee, Ga.	P. C. Reith	AFS	.....	.....	..	..	2	7/1	1-3	275.00
Georgia Warm Springs Foundation [1]	Warm Springs, Ga.	C. E. Irwin	C	700	791	..	..	2	.....	1	.....
Children's Memorial Hospital [1,4]	Chicago	E. L. Compere	C	.....	1,422	1	1	1	1/1	1	75.00
Cook County Hospital *1½ [4]	Chicago	P. Lewin	A	380	6,610	15	2	3	Varies	1-3	27.50
		J. Callahan	F	2,829	6,359	202	5	5	Varies	1-3	27.50
Michael Reese Hospital *[2,4]	Chicago	P. Lewin	AC	662	2,577	..	..	4	.....	1-3	25.00
Research and Educational Hospitals *[2]	Chicago	F. A. Chandler	ACFS	69	6,561	1	..	4	7/1	1-3	25.00
St. Luke's Hospital *[1,4]	Chicago	F. A. Chandler	A	682	974	4	3	2	7/1	1-3	25.00
Shriners Hospital for Crippled Children [1]	Chicago	H. A. Sofield	C	255	2,348	..	..	1	4/1	1	60.00

Numerical and other references will be found on page 1375.

15. ORTHOPEDIC SURGERY—Continued

Name of Hospital	Location	Chief of Service	Type of Training [14]	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
University of Chicago Clinics *[3,4]	Chicago	C. H. Hatcher	ACFS	594	5,561	6	4	3	7/1	1-3	25.00
Wesley Memorial Hospital *[3,4]	Chicago	E. L. Compere	AFS	1,180	.....	9	4	3	1/1, 7/1	1-3	25.00
†Evanston Hospital *½	Evanston, Ill.	V. C. Turner	F	399	1,396	2	1	1	.....	½-3	50.00
St. Francis Hospital *[1]	Evanston, Ill.	J. J. Fahey	A	794	.....	30	..	1	Varies	1	75.00
†Veterans Administration Hospital [2]	Hines, Ill.	H. A. Sofield	AFS	1,538	.....	6	2	4	Varies	1-3	303.33
†West Suburban Hospital *1½	Oak Park, Ill.	H. A. Sofield	AF	228	.....	15	2	1	7/1	½-1	150.00
Indianapolis City Hospital *1½	Indianapolis	F. Teague	AF	841	7,000	51	6	4	.....	1-3	.....
Indiana University Medical Center *[3,4]	Indianapolis	G. J. Garceau	ACFS	1,018	6,934	13	5	6	.....	1-3	33.33
†Methodist Hospital *[1,4]	Indianapolis	L. Shuler	A	1,135	.....	27	4	1	7/1	1-2	200.00
†St. Vincent's Hospital *[2]	Indianapolis	G. J. Garceau	AFS	738	.....	22	5	2	11/1	1-3	200.00
†Veterans Administration Hospital 1½	Indianapolis	G. J. Garceau	AF	440	1,000	1	..	1	Varies	1-5	275.00
†Iowa Methodist Hospital *1½	Des Moines, Iowa	E. M. George	AF	684	878	10	7	2	Varies	1-3	125.00
University Hospitals *2½,[4]	Iowa City	A. Steindler	ACS	2,898	3,687	4	2	7	7/1	1	40.00
†University of Kansas Hospitals *[1]	Kansas City, Kan.	F. D. Dickson	A	589	1,742	8	2	1	.....	1	.....
†Veterans Administration Hospital [2]	Wadsworth, Kan.	R. Diveley	AFS	207	40	5	2	3	Varies	1-3	275.00
St. Francis Hospital *[1]	Wichita, Kan.	C. Rombold	A	717	.....	4	3	1	.....[r]	1	.....
Kosair Crippled Children's Hospital [1]	Louisville, Ky.	W. B. Owen	C	269	.....	1	..	3	1/1	1	100.00
Louisville General Hospital *[3]	Louisville, Ky.	W. B. Owen	AFS	968	5,343	23	4	1	4/1	1-2	75.00
†Veterans Administration Hospital 1½	Louisville, Ky.	E. A. Bray	AF	.....	.....	..	..	3	7/1	1-3	.....
Charity Hospital of Louisiana *[3,4]	New Orleans		ACFS	2,496	18,133	69	4	14	7/1	1-3	25.00
Louisiana State University Unit *[3]	New Orleans	H. T. Simon	ACFS	(See Charity Hospital)							
Tulane University Unit *[3]	New Orleans	G. A. Caldwell	ACFS	(See Charity Hospital)							
Independent Unit *[3]	New Orleans	G. C. Battalora	ACFS	(See Charity Hospital)							
†Foundation Hospital [2]	New Orleans	G. A. Caldwell	AFS	400	9,000	2	1	3	.....[r]	2	150.00
†Touro Infirmary *[2]	New Orleans	G. A. Caldwell	AFS	418	670	2	1	1	7/1	1	17.50
†Veterans Administration Hospital [2]	New Orleans	G. D. Berkett	AFS	.....	.....	..	..	2	Varies	1-3	275.00
†Shreveport Charity Hospital *1½	Shreveport, La.	T. M. Oxford	AF	1,093	1,856	16	3	2	7/1	1-3	60.00
Shriners Hospital for Crippled Children [1]	Shreveport, La.	H. A. Durham	C	105[b]	828[b]	..	..	2	.....	1-2	.....
†Children's Hospital School [1]	Baltimore	R. W. Johnson	C	391	.....	3	1	1	7/1	1	None
James Lawrence Kernan Hospital for Crippled Children [1]	Baltimore	A. F. Voshell	C	300	3,168	1	..	2	7/1	1	100.00
Johns Hopkins Hospital *[2,4]	Baltimore	G. E. Bennett	AFS	599	10,058	4	2	4	7/1	1+	.....
†U. S. Marine Hospital *[1]	Baltimore	J. D. Lane Jr.	A	175	1,476	3	1	1	7/1	1	184.16
†Veterans Administration Hospital [2]	Fort Howard, Md.	J. Lyford	AFS	276	.....	..	..	1	Varies	1-3	275.00
Boston City Hospital *1½,[4]	Boston	O. J. Hermann	AF	1,191	.....	14	..	2	.....	1-2	50.00
Children's Hospital *[1,4]	Boston	W. T. Green	C	437	21,332	2	2	9	Varies	1	.....
Lahey Clinic [2]	Boston	G. E. Haggart	AC	600[b]	8,000[b]	..	..	4	Varies	1-2	125.00
Massachusetts General Hospital *[3]	Boston	G. W. VanGorder	AFS	366	.....	14	4	2	7/1	1-3	41.67
†Peter Bent Brigham Hospital *[1]	Boston	W. T. Green	A	458	2,600	1	..	1	1/1, 7/1	1	83.33
†Veterans Administrative Hospital [2] (West Roxbury)1½	Boston	J. Barr	AF	191	187	..	..	1	6/1	1-2	275.00
†Veterans Administration Hospital [2]	Framingham, Mass.		AFS	726	666	..	..	2	10/1	1-2	275.00
Shriners Hospital for Crippled Children [1]	Springfield, Mass.	G. de N. Hough	C	255	2,631	1	..	2	.....[r]	1-2	25.00
Worcester City Hospital *[1]	Worcester, Mass.	J. W. O'Meara	A	969	882	33	3	2	.....	1	50.00
University Hospital *[3,4]	Ann Arbor, Mich.	C. E. Badgley	ACFS	1,151	9,363	6	4	6	7/1	1	101.40
†Children's Hospital [1,20]	Detroit	F. C. Kidner	C	235	1,684	..	..	1	7/1	1	50.00
City of Detroit Receiving Hospital *½,[4,20]	Detroit	A. D. LaFerte	F	857	8,339	16	1	2	7/15	1+	149.67
†Harper Hospital *[1,4,20]	Detroit	A. D. LaFerte	A	.....	.....	..	..	2	7/1	1-3	113.00
Henry Ford Hospital *[3,4]	Detroit	G. L. Mitchell	ACFS	1,203	14,715	3	..	3	7/1	1½-3	200.00
†Blodgett Memorial Hospital *[2]	Grand Rapids, Mich.	J. T. Hodgen	AC	100	.....	..	..	1	10/1	1-3	175.00
Borgess Hospital *1½	Kalamazoo, Mich.	H. Stryker	AF	412[b]	1,923[b]	..	..	1	.....[r]	1	.....
Shriners Hospital for Crippled Children [1]	Minneapolis	W. H. Cole	C	119	361	1	1	1	7/1	1	.....
†University Hospitals *[1,4]	Minneapolis	W. H. Cole	A	217	1,895	5	2	3	7/1	1-3	100.00
†Veterans Administration Hospital [2]	Minneapolis		AFS	611	.....	3	1	7	.....	1	275.00
Mayo Foundation [3]	Rochester, Minn.	M. S. Henderson and R. K. Ghormley	ACFS	(See page 1375)				16	.....	1	.....
Gillette State Hospital for Crippled Children [1,4]	St. Paul	C. C. Chatterton	C	768	.....	8	8	4	1/1, 7/1	1	91.50
University Hospitals [1]	Columbia, Mo.	W. J. Stewart	C	338	647	3	..	1	.....	1	.....
†Children's Mercy Hospital [1]	Kansas City, Mo.	N. Pickard	C	344	1,907	..	..	1	7/1	1	50.00
Kansas City General Hospital No. 1 *1½	Kansas City, Mo.	R. Diveley	AF	808	4,286	74	23	2	.....	1½	50.00
St. Luke's Hospital *[1]	Kansas City, Mo.	F. Dickson	A	568	.....	4	3	1	.....	1-3	75.00
Barnes Hospital *[3]	St. Louis	J. A. Key	ACFS	684	2,136	10	3	5	7/1	1-3	None
†St. Louis City Hospital *½,[4]	St. Louis	O. Hampton and R. O'Brien	F	1,178	2,765	98	6	2	7/1	1	86.00
St. Mary's Group of Hospitals *[3]	St. Louis	A. O'Reilly	ACFS	457	4,061	6	2	5	Varies	3	35.00
Shriners Hospital for Crippled Children [1]	St. Louis	R. T. Odell	C	418	.....	..	..	1	.....	1	.....
†Lincoln General Hospital *[1]	Lincoln, Neb.	J. E. M. Thomson	A	798	.....	..	1	1	Varies	1-2	75.00
Nebraska Orthopedic Hospital [1,4]	Lincoln, Neb.	H. W. Orr	C	626	1,887	6	3	1	11/1	1-2	125.00
University of Nebraska Hospital *[2,4]	Omaha	R. Schrock	AFS	110	467	2	2	1	7/1	1-3	50.00
Jersey City Hospital *1½,[4]	Jersey City, N. J.	S. B. Sprague	AF	1,000	8,172	45	15	3	Varies	1-2	35.00
Monmouth Memorial Hospital *2½	Long Branch, N.J.	N. S. Ransohoff	ACF	409	609	5	2	2	1/1	1	150.00
Hospital and Home for Crippled Children [1]	Newark, N. J.	T. Nicola and H. Kessler	C	453	4,606	2	..	1	.....	1-3	.....
New Jersey Orthopaedic Hosp. and Disp. [2]	Orange, N. J.	H. W. Smith	AC	688	16,439	1	..	2	1/1	1½	90.00
Orthopaedic Hospital and Dispensary [1]	Trenton, N. J.	R. B. Ernest	C	283	1,174	4	..	1	4/1	1	150.00
†Veterans Administration Hospital 1½	Albuquerque, N. Mex.	E. Parnall	AF	249	.....	3	2	1	Varies	1-2	275.00
†Albany Hospital *[1,4]	Albany, N. Y.	J. W. Ghormley	A	93	.....	1	1	2	7/1	1	41.67
Binghamton City Hospital *[2]	Binghamton, N. Y.	C. M. Allaben	AC	112	655	..	..	1	7/1	1	100.00
†House of St. Giles the Cripple [1,4]	Brooklyn	J. B. L'Episcopo	C	267	.....	..	..	1	7/1	1-2	100.00
Kings County Hospital *[3]	Brooklyn	J. B. L'Episcopo	ACFS	413	6,837	14	14	3	7/1	1-3	70.00
Long Island College Hospital *[2,4]	Brooklyn	J. B. L'Episcopo	AFS	298	7,298	3	..	3	7/1	1-3	50.00
†St. Charles Hospital Orthopedic Clinic [1]	Brooklyn	H. C. Fett	C	170	2,870	1	..	1	6/1	1	100.00
Buffalo General Hospital *[3]	Buffalo	F. N. Potts	AFS	627	578	12	2	3	7/1	1-2	25.00
†Children's Hospital [1]	Buffalo	F. N. Potts	C	298	.....	..	..	1	1/1	1	50.00
Edward J. Meyer Memorial Hospital *[2,4]	Buffalo	A. A. Gartner	AFS	125	774	6	3	4	7/1	1-3	100.00
†Millard Fillmore Hospital *[1]	Buffalo	A. A. Gartner	A	511	.....	20	4	1	.....[r]	1-4	50.00
†Meadowbrook Hospital *[1]	Hempstead, N. Y.	O. C. Hudson	A	540	.....	30	5	1	7/1	1	115.00
†Queens General Hospital *[2]	Jamaica, N. Y.	F. C. Courten	AFS	1,380	2,382	8	7	1	7/1	1-3	70.00
†Nassau Hospital *1½,[4]	Mineola, N. Y.	O. C. Hudson	AF	671	1,233	13	..	1	6/1	1	100.00
Bellevue Hospital, Div. IV—Open Div. *2½,[4]	New York City	A. Krida	ACF	750	5,933	..	..	4	1/1, 7/1	1-3	45.00
†Flower and Fifth Avenue Hospitals *1½,[4]	New York City	A. Bingham	AF	273	1,042	4	..	1	7/1	1	.....
Hospital for Joint Diseases *[3,4]	New York City	S. Kleinberg and L. Mayer	ACFS	2,741	39,050	21	13	22	1/1	1-3	40.00
Hospital for Special Surgery [3]	New York City	P. D. Wilson	ACFS	1,187	21,376	10	1	13	Varies	2	80.00
Lenox Hill Hospital *1½,[4]	New York City	W. Galland and A. Wiesenthal	AF	364	2,468	8	2	2	7/1	1	50.00
Metropolitan Hospital *[2,4]	New York City	M. J. Wilson	AFS	727	2,042	35	1	4	7/1	1	100.00
Mount Sinai Hospital *[3,4]	New York City	R. K. Lippmann	ACFS	655	7,506	2	1	3	1/1, 7/1	1-2	50.00
New York Orthopaedic Disp. and Hospital	New York City			(Unit of Presbyterian Hospital)							
Presbyterian Hospital *[3,4]	New York City	A. deF. Smith	ACFS	1,085	63,215	7	..	16	.....[r]	1-5	41.66
St. Luke's Hospital *[3]	New York City	M. Cleveland	ACFS	725	4,417	11	2	2	Varies	1-3	50.00
Sydenham Hospital *[1,4]	New York City	J. G. Wishner	A	385	1,425	6	3	1	7/1	1	100.00

Numerical and other references will be found on page 1375.

15. ORTHOPEDIC SURGERY—Continued

Name of Hospital	Location	Chief of Service	Type of Training [14]	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Veterans Administration Hospital [2]	New York City	S. N. Erchenholtz	AFS	674	.....	6	2	6	2/1, 8/1	1-3	306.33
Genesee Hospital *[1]	Rochester, N. Y.		A	601[b]	1,000[b]	..	..	1	.....	1	.....
†Rochester General Hospital *[1,4]	Rochester, N. Y.	H. B. Crawford	A	726	1,238	11	8	1	7/1	1-3	85.00
Strong Memorial-Rochester Municipal Hospitals *[3,4]	Rochester, N. Y.	R. P. Schwartz	ACFS	683	5,089	..	..	3	7/1	1-2	41.66
†U. S. Marine Hospital *[1½]	Stapleton, L. I, N. Y.	A. A. Michele	AF	2,523	18,210	3	3	6	.....	1-2	.....
Sea View Hospital [1,4]	Staten Island, N. Y.	D. M. Bosworth	A	329	.....	12	1	5	1/1, 7/1	1	45.00
†St. Vincent's Hospital *[1]	Staten Island, N. Y.	D. M. Bosworth	A	440	422	10	1	1	7/1	1	50.00
New York State Reconstruction Home [1,4]	W. Haverstraw, N. Y.	H. Hallock	C	390	842	1	..	3	7/1, 10/1	1	152.33
Charlotte Memorial Hospital *[1,4]	Charlotte, N. C.	H. Winkler	A	1,500	.....	16	6	3	Varies	1	.....
Duke Hospital *[3,4,13]	Durham, N. C.	L. D. Baker	ACFS	717	8,140	2	1	2	7/1	1	83.33
North Carolina Orthopedic Hospital [1]	Gastonia, N. C.	W. M. Roberts	C	527	4,723	8	..	2	.....	1	40.00
†North Carolina Baptist Hospital *[1,4]	Winston-Salem, N. C.	R. A. Moore	A	329	940	5	1	1	.....	1-3	.....
†Children's Hospital [1,4]	Akron, Ohio	W. A. Hoyt	C	609	2,314	4	..	1	7/1	1-2	100.00
†City Hospital *[1½]	Akron, Ohio	H. R. Conn	AF	1,387	.....	38	6	1	.....	1	100.00
†Children's Hospital [1]	Cincinnati	J. A. Freiberg	C	323	1,152	..	..	m	7/1	1	None
Cincinnati General Hospital *[2]	Cincinnati	J. A. Freiberg	AFS	234	4,064	8	7	3	7/1	1-2	.....
Jewish Hospital *[1]	Cincinnati	J. A. Freiberg	A	510	.....	17	1	1	7/1	1	75.00
Cleveland Clinic Foundation Hospital 2½	Cleveland	J. A. Dickson	ACS	479	10,039	3	..	4	7/1	1-3	100.00
Mount Sinai Hospital *[1½]	Cleveland	R. S. Reich	AF	882	1,293	3	2	2	7/1	1	100.00
St. Luke's Hospital *[2]	Cleveland	T. A. Willis	AFS	958	1,970	21	5	2	7/1	2	60.00
University Hospitals *[3,4]	Cleveland	M. Harbin	ACFS	587	2,854	7	..	2	7/1	1+	25.00
†Veterans Administration Hospital [2]	Cleveland	W. H. McGaw	AFS	235	246	..	..	3	1/1, 7/1	2	200.00
Children's Hospital [1]	Columbus, Ohio	E. H. Wilson	C	437	2,066	..	..	1	1/1, 7/1	1	60.00
Mount Carmel Hospital *[2]	Columbus, Ohio	E. H. Wilson	AFS	1,051	.....	2	..	1	1/1	1	135.00
†White Cross Hospital *[1]	Columbus, Ohio	J. D. Wilson	A	654	.....	7	..	1	7/1	1-2	100.00
St. Vincent's Hospital *[3,4]	Toledo, Ohio	B. J. Hein	ACFS	962	3,474	21	4	1	.....	1	.....
Youngstown Hospital *[1½]	Youngstown, Ohio	R. R. Morrall	AF	900	1,018	25	5	1	7/1	1	100.00
Bone and Joint Hospital-McBride Clinic 2½	Oklahoma City	E. D. McBride	ACF	1,345	.....	..	..	3	1/1	1-2½	150.00
St. Anthony Hospital *[1½]	Oklahoma City	W. K. West	AF	965	.....	18	4	1	7/1	1	75.00
University Hospitals *[3]	Oklahoma City	W. K. West	ACFS	1,008	6,175	18	4	4	7/1	1-2	35.00
†Veterans Administration Hospital [2]	Oklahoma City	W. K. West	AFS	126	.....	..	..	2	7/1	2	275.00
†Hillcrest Memorial Hospital *[1½,4]	Tulsa, Okla	I. MacKenzie	AF	483	.....	18	3	1	.....	1-2	.....
Emanuel Hospital *[1]	Portland, Ore.	E. G. Chuinard	A	1,518	.....	24	7	2	10/1	1	75.00
Shriners Hospital for Crippled Children [1]	Portland, Ore.	L. S. Lucas	C	297	2,113	..	..	1	.....	1	.....
University of Oregon Medical School Hospitals and Clinics *[2,4]	Portland, Ore.	L. S. Lucas	AFS	460	4,656	27	10	5	7/1	3	75.00
†Veterans Administration Hospital [2]	Portland, Ore.	J. B. Davis	AFS	454	1,620	1	1	1	10/1	2	275.00
State Hospital for Crippled Children [1]	Elizabethtown, Pa.	T. Outland	C	185	1,278	1	..	2	4/1	1-2	247.50
Hamot Hospital *[1½,4]	Erie, Pa.	A. G. Davis	AF	730	335	8	..	2	.....	1	.....
†Graduate Hospital of the Univ. of Pa. *[1½]	Philadelphia	J. T. Nicholson	AS	94	1,375	2	..	1	7/1	1-2	None
†Hahneman Hospital *[2]	Philadelphia	E. O. Geckeler	AFS	687	4,381	3	2	2	7/1	3	50.00
Hosp. of the Univ. of Pennsylvania *[3,4]	Philadelhpia	P. C. Colonna	ACFS	699	5,382	2	2	7	1/1, 7/1	1-3	20.00
Jefferson Medical College Hospital *[1]	Philadelphia	J. R. Martin	A	302	3,077	7	3	1	.....	1	.....
†Philadelphia General Hospital *[1½,4]	Philadelphia	J. R. Moore	AF	436	.....	95	..	2	Varies	1-3	70.00
Shriners Hospital for Crippled Children [1,4]	Philadelphia	J. R. Moore	C	126	2,574	..	..	2	1/1	1-2	50.00
Temple University Hospital *[2,4]	Philadelphia	J. R. Moore	AFS	552	5,546	16	1	3	7/1	3	50.00
†Allegheny General Hospital *[2]	Pittsburgh	P. B. Steele and J. Heberling	AC	1,045	1,273	3	..	2	4/1	3	100.00
†Children's Hospital [1,4]	Pittsburgh	W. O. Markell	C	195	1,775	..	..	1	1/1	1-3	75.00
†Presbyterian Hospital *[2,4]	Pittsburgh	J. S. Donaldson	AFS	287	.....	1	1	1	.....	1-5	33.00
†St. Francis Hospital *[1]	Pittsburgh	C. C. Yount	A	248	227	..	..	1	.....	1	100.00
Robert Packer Hospital *[3]	Sayre, Pa.	G. Hammond	ACFS	889	.....	21	12	2	7/1	1-2	150.00
Rhode Island Hospital *[1½]	Providence, R. I.	H. E. Harris	F	638	5,638	24	6	2	4/1	1	100.00
Roper Hospital *[3]	Charleston, S. C.	F. A. Hoshall	ACFS	456	2,395	2	..	3	7/1	1-4	25.00
†Veterans Administration Center [2]	Columbia, S. C.		AFS	.....	.....	..	..	4	Varies	2-4	275.00
Shriners Hospital for Crippled Children [1,4]	Greenville, S. C.	J. W. White	C	247	1,442	1	..	2	7/1	1	100.00
†Baroness Erlanger Hospital *[1½]	Chattanooga, Tenn.	R. C. Robertson	AF	816	579	24	6	2	7/1	1	75.00
†Knoxville General Hospital *[1]	Knoxville, Tenn.	R. Patterson	C	1,094	2,447	28	2	1	7/1	1	60.00
St. Joseph Hospital *[1½]	Memphis, Tenn.	E. J. Lipscomb	AF	858	2,478	18	5	1	7/1	1	100.00
†Veterans Administration Hospital [2]	Memphis, Tenn.	D. M. Street	AFS	.....	.....	..	..	7	Varies	1-2½	.....
Willis C. Campbell Clinic Hospital [3]	Memphis, Tenn.	J. S. Speed	ACFS	1,573[b]	9,936[b]	..	..	10	1/1	1-3	50.00
†Nashville General Hospital *[5]	Nashville, Tenn.	C. C. Kayler	ACFS	390	4,320	19	4	1	7/1	1	.....
Baylor University Hospital *[1,4]	Dallas, Texas	F. L. Butte	A	1,228	.....	15	..	2	7/1	1	50.00
Parkland Hospital *[½,4]	Dallas, Texas	P. M. Girard	F	.....	.....	..	..	2	.....	1	75.00
Texas Scottish Rite Hospital for Crippled Children [1]	Dallas, Texas	B. Carrell	C	578	3,202	1	..	3	7/1	1	75.00
†Veterans Administration Hospital [1½]	Dallas, Texas	P. M. Girard	AF	825	.....	2	..	3	7/1	1-2	275.00
†Harris Memorial Methodist Hospital *[3,4]	Fort Worth, Texas	C. F. Clayton	AFS	734	3,120	7	1	1	7/1	1-3	100.00
John Sealy Hospital *[3,4]	Galveston, Texas	G. W. N. Eggers	AFS	522	2,500	8	2	2	.....	1-3	50.00
†Hermann Hospital *[1½,4]	Houston, Texas	E. T. Smith	AS	350	638	8	3	1	7/1	1-3	50.00
Jefferson Davis Hospital *[2]	Houston, Texas	J. R. Bost	AFS	620	2,436	19	2	1	6/1	1-3	50.00
†Methodist Hospital *[1,4]	Houston, Texas	J. B. Foster	C	170	775	..	..	1	Varies	1	90.00
†St. Joseph's Infirmary 1½ [3,4]	Houston, Texas	J. B. Foster	AF	1,068	.....	16	2	1	.....	1+	150.00
†Veterans Administration Hospital [2]	McKinney, Texas	M. Freiberg	AFS	.....	.....	..	..	2	7/1	1-5	275.00
†Scott and White Hospital *[1½]	Temple, Texas	H. B. Macey	AF	286	.....	3	1	1	1/1	1	150.00
University of Virginia Hospital *[3,4]	Charlottesville, Va.	R. V. Funsten	ACFS	562	3,932	7	4	4	7/1	1-4	62.00
Crippled Children's Hospital [1,4]	Richmond, Va.	W. T. Graham	C	308	.....	..	..	2	1/1	1-2	100.00
†Medical College of Virginia, Hosp. Div. *[2]	Richmond, Va.	H. P. Mauck	AFS	873	2,588	23	9	3	7/1	1	46.50
†Veterans Administration Hospital 1½	Richmond, Va.	R. C. Farrow	AF	.....	.....	..	..	2	1/1	1-3	275.00
Children's Orthopedic Hospital [1,4]	Seattle	H. J. Wyckoff	C	470	20,380	3	3	1	.....	1	.....
King County Hospital *[1½]	Seattle	R. Anderson	AF	1,287	2,237	77	16	3	7/1	1	125.00
Providence Hospital *[1]	Seattle	I. O. McLemore	A	591	.....	3	1	1	7/1	1	100.00
Swedish Hospital *[1½]	Seattle	J. LeCocq	AS	1,431	.....	4	3	1	.....	1	.....
†Shriners Hospital for Crippled Children [1]	Spokane, Wash.	A. O. Adams	C	83	419	1	..	1	1/1	1	.....
Charleston General Hospital *[1]	Charleston, W. Va.	J. E. Cannaday	A	1,042	5,579	11	5	2	7/1	1-3	125.00
Morris Memorial Hospital [1,4]	Milton, W. Va.	P. H. Harmon	C	265	157	3	..	2	7/1, 11/1	1	100.00
State of Wisconsin General Hospital *[3,4]	Madison, Wis.	R. E. Burns	ACFS	1,502	5,827	19	10	6	7/1	3	25.00
†Milwaukee Children's Hospital [1,4]	Milwaukee	A. C. Sehmidt	C	.....	.....	..	..	1	1/1	1	.....
Milwaukee County Hospital *[1,4]	Milwaukee	C. C. Schneider	A	1,176	4,568	37	6	3	Varies	1-3	75.00

Hospitals, 226; Assistant Residencies and Residencies, 565

16. OTOLARYNGOLOGY

(See Ophthalmology)

Numerical and other references will be found on page 1375.

17. PATHOLOGY

The following services approved by the Council are accredited by the American Board of Pathology
(See footnotes 1, 2 and 3 for number of years credit)

United States Army.—Residencies available to medical officers, U. S. Army.

Fitzsimons General Hospital ★[3] ..... Denver
Army Institute of Pathology [1] ..... Washington, D. C.
Walter Reed General Hospital ★[3] ..... Washington, D. C.
Percy Jones General Hospital ★[1] ..... Battle Creek, Mich.

United States Navy.—Residencies available to medical officers, U. S. Navy.

U. S. Naval Hospital ★[3] ..... Long, Beach, Calif.
U. S. Naval Hospital ★[3] ..... San Diego, Calif.
U. S. Naval Hospital ★[1] ..... Bethesda, Md.
U. S. Naval Hospital ★[1] ..... Brooklyn
U. S. Naval Hospital ★[3] ..... St. Albans, N. Y.
U. S. Naval Hospital ★[3] ..... Philadelphia

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Surgical Specimens	Number Examined Microscopically	Autopsy Percentage	Asst., Res. and Residencies [5]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Jefferson and Hillman Hospitals ★[2,4]	Birmingham, Ala.	R. D. Baker	20,281	3,837	3,809	30	5	7/1	1	$ 30.00
University Hospital ★[2]	Little Rock, Ark.	R. H. Rigdon	3,805	1,792	1,792	50	1	.....	1-3	.....
Loma Linda Sanitarium and Hospital ★[3]	Loma Linda, Calif.	C. S. Small	4,117	.....	.....	45	5	7/1	1-3	125.00
Cedars of Lebanon Hospital ★[3]	Los Angeles	R. Straus	14,133	4,827	3,522	39	2	7/1	1	100.00
Children's Hospital [1,4]	Los Angeles	R. E. Knutti	5,018	371	362	80	1	.....	1	.....
Hospital of the Good Samaritan ★[1,4]	Los Angeles	R. Hammack	11,200	4,225	3,168	36	1	7/1	1	200.00
Los Angeles County Hospital ★[2,4]	Los Angeles	E. M. Butt	3,394	7,000	6,850	34	2	Varies	2	157.20
St. Vincent's Hospital ★[1]	Los Angeles	J. E. Kahler	12,739	3,896	1,842	43	1	.....	1	.....
White Memorial Hospital ★[1]	Los Angeles	O. B. Pratt	8,574	4,344	2,515	44	2	.....	1-3	130.00
Highland-Alameda County Hospital ★[4]	Oakland, Calif.	R. J. Parsons	8,916	1,534	859	59	2	7/1	1-3	155.00
Collis P. and Howard Huntington Memorial Hospital ★[3]	Pasadena, Calif.	A. G. Foord	8,960	3,221	2,470	59	2	2/1	1	85.00
French Hospital ★[1,4]	San Francisco	G. A. Watson	4,706	.....	.....	27	1	.....	1	.....
Mount Zion Hospital ★[1,4]	San Francisco	G. R. Biskind	5,362	2,719	1,763	64	3	7/1	1	75.00
San Francisco Hospital ★[4]	San Francisco		17,900	1,262	1,262	27	7	.....	1	175.00
Stanford University Hospitals ★[3,4]	San Francisco	A. J. Cox	10,127	1,885	1,885	44	2	7/1	1-2	50.00
University of California Hospital ★[4]	San Francisco	J. F. Rinehart	7,518	2,904	2,904	69	3	7/1	1	50.00
Santa Clara County Hospital ★[1]	San Jose, Calif.	F. Proescher	5,737	2,100	1,766	31	1	.....	1	200.00
Santa Barbara Cottage Hospital ★[3]	Santa Barbara, Calif.	W. O. Russell	5,609	2,638	2,307	51	4	7/1	1	50.00
Childrens Hospital [1]	Denver	H. D. Palmer	8,252	297	294	90	1	7/1	1	50.00
Colorado General Hospital ★[2]	Denver	J. B. McNaught	3,696	1,388	1,285	75	5	7/1	1-3	80.00
Denver General Hospital ★[1]	Denver	W. W. Williams	9,562	1,323	1,150	34	1	7/1	1-2	50.00
St. Luke's Hospital ★[3]	Denver	W. C. Black	8,175	7,038	4,063	36	2	.....	1-3	.....
Colorado State Hospital [1]	Pueblo, Colo.	M. Gallavan	870	83	81	42	3	.....	1	150.00
Bridgeport Hospital ★[3]	Bridgeport, Conn.	I. B. Akerson	11,993	2,519[b]	2,519[b]	36	1	10/16	1	150.00
Hartford Hospital ★[3]	Hartford, Conn.	R. E. Kendall	22,825	6,433	5,902	44	2	7/1	1-3	50.00
St. Francis Hospital ★[1]	Hartford, Conn.	L. P. Hastings	15,592	3,769	3,769	31	1	.....	1	.....
New Britain General Hospital ★[1]	New Britain, Conn.	P. D. Rosahn	7,158	3,203	2,289	29	1	7/1	1	.....
Grace-New Haven Community Hospital New Haven Unit ★[3,4]	New Haven, Conn.	C. J. Bartlett	6,214	2,391	1,755	29	1	7/1	3	40.00
Delaware Hospital ★[3]	Wilmington, Del.	J. W. Howard	10,882	2,498	2,498	51	1	3/1	1	125.00
Children's Hospital [1,4]	Washington, D. C.	E. C. Rice	6,889	250	89	83	1	.....	1	.....
Doctors Hospital ★[1]	Washington, D. C.	O. B. Hunter	8,487	2,725	2,168	65	1	7/1	1-3	100.00
Gallinger Municipal Hospital ★[2,4]	Washington, D. C.	A. R. Monaco	17,636	2,115	1,766	44	2	7/1	1-3	75.00
Garfield Memorial Hospital ★[3,4]	Washington, D. C.	J. W. Lindsay	14,125	2,250	1,504	56	1	7/1	1-3	150.00
Georgetown University Hospital ★[3]	Washington, D. C.	V. J. Dardinski	6,930	1,680	988	40	2	7/1	1-2	75.00
George Washington University Hospital ★[3]	Washington, D. C.	R. M. Choisser	2,886	570	570	48	3	.....	1-3	.....
Providence Hospital ★[3]	Washington, D. C.	H. H. Leffler	11,027	2,508	1,765	40	1	.....	1-3	.....
Sibley Memorial Hospital ★	Washington, D. C.	O. B. Hunter	10,854	3,748	3,510	68	1	.....	1-3	100.00
James M. Jackson Memorial Hospital ★[3]	Miami, Fla.	P. Rezek	16,445	3,531	490	31	1	7/1	3	95.50
Grady Memorial Hospital ★[3,4]	Atlanta, Ga.	W. H. Sheldon	15,661	2,881	2,881	39	3	.....	1	.....
University Hospital ★[3,4]	Augusta, Ga.	E. R. Pund	11,416	3,124	2,458	30	1	7/1	1-2	40.00
Emory University Hospital ★[3]	Emory University, Ga.	S. Madden	9,296	2,168	2,168	39	4	.....	1	.....
Augustana Hospital ★[1]	Chicago	G. Millies	7,248	2,973	2,384	30	1	1/1, 7/1	1-3	50.00
Children's Memorial Hospital [1,4]	Chicago	J. P. Simonds	3,940	233	233	94	1	Varies	1-2	75.00
Cook County Hospital ★[3,4]	Chicago	H. Popper	64,850	6,219	6,219	21	23	Varies	1-3	.....
Grant Hospital ★[1]	Chicago	C. C. Mason	7,523	4,450	2,427	23	1	7/1	1-3	125.00
Illinois Masonic Hospital ★[1]	Chicago	L. S. King	5,579	1,817	1,231	31	1	8/1	1	50.00
Mercy Hospital ★[2]	Chicago	J. W. Henry	8,267	2,099	1,930	44	1	.....	1-3	.....
Michael Reese Hospital ★[2,4]	Chicago	O. Saphir	14,830	4,992	4,992	66	10	.....	1-3	50.00
Mount Sinai Hospital ★[3,4]	Chicago	I. Davidsohn	7,320	2,930	2,736	40	2	7/1	1	50.00
Norwegian-American Hospital ★[1]	Chicago	H. R. Fishback	6,202	2,343	1,315	33	1	7/1	3	25.00
Passavant Memorial Hospital ★[3,4]	Chicago		5,800	1,261	1,211	70	1	.....	1-3	.....
Presbyterian Hospital ★[3]	Chicago	G. M. Hass	11,928	3,872	3,872	64	5	.....	1-3	.....
Provident Hospital ★[1,4]	Chicago	A. C. Webb	5,140	1,365	1,365	57	1	.....	1	.....
Research and Educational Hospitals ★[3]	Chicago	G. A. Bennett	5,945	2,124	2,142	90	3	7/1	1-3	55.00
St. Luke's Hospital ★[3,4]	Chicago	E. F. Hirsch	14,303	5,707	5,000	59	5	7/1	1-3	25.00
University of Chicago Clinics ★[3]	Chicago	P. R. Cannon	11,779	2,752	2,553	83	2	7/1	1-3	25.00
Wesley Memorial Hospital ★[1,4]	Chicago	T. H. Laipply	12,541	.....	2,731	62	3	1/1, 7/1	1-3	25.00
Evanston Hospital ★[3]	Evanston, Ill.	J. McCarter	8,996	3,394	1,878	86	5	.....	3	50.00
St. Francis Hospital ★[3]	Evanston, Ill.	L. F. Bleyer	9,999	1,979	1,927	35	1	.....	1	75.00
Veterans Administration Hospital [3]	Hines, Ill.	W. L. McNamara	17,830	4,415	4,415	..	1	.....	1-3	275.00
Methodist Hospital of Central Illinois ★[1,4]	Peoria, Ill.	L Loeffler	6,441	3,262	2,147	26	1	7/1	1	100.00
St. Francis Hospital ★[3,4]	Peoria, Ill.	J. E. Kraus	12,883	4,047	2,792	35	1	4/1	1-3	150.00
St. Joseph Hospital ★[1]	Fort Wayne, Ind.	S. M. Rabson	7,548	2,269	2,008	31	2	1/1, 7/1	1	125.00
Indianapolis City Hospital ★[3]	Indianapolis	W. B. Dublin	10,565	1,943	1,918	41	2	.....	1-3	.....
Indiana University Medical Center ★[3,4]	Indianapolis	J. L. Arbogast	9,740	3,289	3,289	58	4	.....	1-3	.....
Methodist Hospital ★[3]	Indianapolis	H. M. Banks	20,765	9,885	7,200	33	3	1/1	1-2	200.00
Ball Memorial Hospital ★[1,4]	Muncie, Ind.	L. G. Montgomery	7,425	3,486	3,081	27	2	7/1	1-2	100.00
Memorial Hospital ★[1,11]	South Bend, Ind.		9,229	1,442	1,137	34	1	7/1	2	150.00
Iowa Methodist Hospital ★[1]	Des Moines, Iowa	R. Birge	10,271	3,327	3,128	74	2	Varies	1-3	125.00
Mercy Hospital ★[1]	Des Moines, Iowa	F. C. Coleman	7,546	1,869	1,655	40	1	7/1	1-3	100.00
University Hospitals ★[3,4]	Iowa City	E. D. Warner	18,496	.....	.....	56	3	7/1	1	40.00
University of Kansas Hospital ★[3,4]	Kansas City, Kan.	H. R. Wahl	8,181	3,231	2,114	59	2	.....	1	.....
St. Francis Hospital ★[3]	Wichita, Kan.	C. A. Hellwig	13,373	6,079	6,070	43	1	.....	1	.....
Louisville General Hospital ★	Louisville, Ky.	A. J. Miller	12,006	1,716	1,689	38	3	4/1	1-2	45.00
Charity Hospital of Louisiana ★[3,4]	New Orleans	E. Moss	41,449	8,508	8,508	49	10	7/1	1-4	25.00
Southern Baptist Hospital ★[1]	New Orleans	E. H. Lawson	16,279	5,611	5,611	25	2	.....	1	150.00
Touro Infirmary ★[3]	New Orleans	S. H. Colvin	15,383	5,034	5,034	55	1	7/1	1	17.50
U. S. Marine Hospital ★[1]	New Orleans	C. E. Dunlap	6,482	1,487	1,381	76	1	.....	1	.....
Shreveport Charity Hospital ★[1]	Shreveport, La.	W. R. Matthews	11,181	3,186	3,186	47	2	.....	1	.....
Maine General Hospital ★[2]	Portland, Me.	J. E. Porter	8,176	1,757	1,757	29	2	.....	1+	50.00
Baltimore City Hospitals ★[3]	Baltimore	C. G. Warner	7,188	672	642	55	4	7/1	1	35.00
Johns Hopkins Hospital ★[3]	Baltimore	A. Rich	18,235	3,100	3,100	65	1	7/1	1	.....
Sinai Hospital ★[3,4]	Baltimore	T. Weinberg	7,654	2,736	2,736	60	4	7/1	1-3	35.00
U. S. Marine Hospital ★[1]	Baltimore	C. H. Binford	7,954	4,578	4,578	67	1	7/1	1-3	184.16

Numerical and other references will be found on page 1375.

17. PATHOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Surgical Specimens	Number Examined Microscopically	Autopsy Percentage	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
University Hospital [2,4]	Baltimore	H. R. Spencer	9,834	4,685	4,685	58	2	7/1	1-2	.....
Beverly Hospital [2]	Beverly, Mass.	M. L. Trumbull	4,649	1,074	1,074	80	1	.....	1	50.00
Beth Israel Hospital [2]	Boston	M. J. Schlesinger	6,020	2,929	2,929	58	1	10/1	1-3	79.16
Boston City Hospital [2,4]	Boston	F. Parker Jr.	36,888	4,110	4,110	19	5	.....	1	50.00
Boston Lying-In Hospital [1,4]	Boston	A. T. Hertig	2,470	1,214	1,214	63	3	1/1	1	50.00
Children's Hospital [4]	Boston	S. Farber	7,693	877	877	76	1	.....	1	.....
Massachusetts General Hospital [*]	Boston	T. B. Mallory	7,227	8,626	8,626	53	3	.....	1-3	41.67
Massachusetts Memorial Hospitals [2]	Boston	R. Osgood	7,864	2,002	2,002	70	1	10/1	1	50.00
New England Deaconess Hospital [2]	Boston	S. Warren	6,910	6,729	6,729	63	3	1/1, 4/1	1	75.00
Peter Bent Brigham Hospital [2]	Boston	S. B. Wolbach	4,482	1,618	1,618	74	2	.....	1-3	.....
Mount Auburn Hospital [1]	Cambridge, Mass.	H. E. MacMahon	6,509	2,071	2,071	45	1	Varies	1	None
Salem Hospital [2]	Salem, Mass.	D. A. Nickerson	5,788	2,000	2,000	32	1	.....	1	50.00
Pondville Hospital [1]	Walpole, Mass.	S. Warren	724	1,367	1,367	74	2	.....	1	.....
Worcester City Hospital [2,4]	Worcester, Mass.	R. H. Goodale	9,489	2,758	2,276	25	1	.....	1	50.00
Worcester State Hospital [3,4]	Worcester, Mass.	W. Freeman	715	44	44	14	1	.....	1	.....
University Hospital [2,4]	Ann Arbor, Mich.	C. V. Weller	14,471	6,573	6,573	61	1	.....	1	.....
Leila Y. Post Montgomery Hospital [1]	Battle Creek, Mich.	G. Schelm	6,749	4,309	4,309	31	1	7/1	1-3	200.00
City of Detroit Receiving Hospital [2,4]	Detroit	O. A. Brines	16,816	2,701	2,701	25	2	.....	1-3	.....
Grace Hospital [2]	Detroit	C. I. Owen	15,194	11,498	7,858	35	1	7/1	1-3	75.00
Harper Hospital [2,4]	Detroit	P. F. Morse	19,950	.....	.....	33	2	.....	1	.....
Henry Ford Hospital [2,4]	Detroit	F. W. Hartman	16,430	4,716	4,716	57	3	7/1	1-3	200.00
Herman Kiefer Hospital [1]	Detroit	W. L. Brosius	7,477	186	186	47	1	.....	1	.....
Providence Hospital [2]	Detroit	D. H. Kaump	12,873	3,848	3,848	73	1	.....	1	.....
St. Mary's Hospital [2]	Detroit	M. E. Maum	9,795	683	683	59	2	.....	3	140.00
Woman's Hospital [1,4]	Detroit	D. Beaver	8,138	3,631	3,441	60	1	.....	1	.....
Wayne County General Hospital and Infirmary [2,4]	Eloise, Mich.	S. E. Gould	5,205	2,193	2,193	30	2	7/1	1	197.50
Hurley Hospital [1]	Flint, Mich.	G. R. Backus	13,899	1,909	1,882	53	1	7/1	1	.....
Blodgett Memorial Hospital [1]	Grand Rapids, Mich.	C. A. Payne	5,039	.....	3,429	54	1	Varies	1-2	175.00
St. Luke's Hospital [2]	Duluth, Minn.	A. H. Wells	8,908	2,461	2,200	78	1	.....	1	.....
St. Mary's Hospital [1]	Duluth, Minn.	W. V. Knoll	9,235	6,040	5,483	79	1	.....	1	.....
Minneapolis General Hospital [2]	Minneapolis	A. J. Hertzog	10,111	1,275	1,115	51	1	1/1, 7/1	1-3	100.00
Mayo Foundation	Rochester, Minn.	H. E. Robertson	(See page 1375)				12	.....	1	.....
Ancker Hospital [1]	St. Paul	J. F. Noble	7,072	809	672	68	1	4/1	1	91.50
Charles T. Miller Hospital [2]	St. Paul	K. Ikeda	8,283	3,864	3,393	49	1	1/1	1-3	100.00
St. Louis County Hospital [2]	Clayton, Mo.	H. Allen	3,022	647	585	39	1	.....	1	.....
Kansas City General Hospital No. 1 [2]	Kansas City, Mo.	V. Buhler	9,182	2,285	2,055	60	3	7/1	1-3	50.00
Research Hospital [2]	Kansas City, Mo.	H. K. B. Allebach	6,913	2,722	2,615	56	1	.....	1	.....
St. Joseph Hospital [2,4]	Kansas City, Mo.	R. W. Kerr	9,788	4,967	3,927	46	1	.....	1	.....
St. Luke's Hospital [1]	Kansas City, Mo.	F. C. Helwig	8,258	5,508	4,296	70	1	.....	1	.....
Barnes Hospital [1,4]	St. Louis	G. J. Dammin	14,207	3,250	3,250	70	2	7/1	1-3	25.00
Homer G. Phillips Hospital [1]	St. Louis	S. H. Gray	11,709	1,402	1,331	23	3	7/1	1	50.00
Jewish Hospital [1,4]	St. Louis	S. H. Gray	7,963	.....	.....	32	1	.....	1	.....
St. Louis City Hospital [2,4]	St. Louis	S. H. Gray	16,516	1,922	2,904	50	3	.....	1-3	.....
St. Mary's Group of Hospitals [2]	St. Louis	H. Pinkerton	14,497	7,553	7,533	47	3	Varies	1	35.00
Lincoln General Hospital [1]	Lincoln, Neb.	F. H. Tanner	5,025	.....	.....	72	1	.....	1	.....
Creighton Memorial St. Joseph's Hosp. [2]	Omaha	C. B. Russum	11,904	20,004	8,395	42	1	7/1	1-2	100.00
Nebraska Methodist Hospital [1]	Omaha	J. R. Schenken	5,695	2,404	2,404	50	1	Varies	1-4	50.00
University of Nebraska Hospital [2]	Omaha	J. P. Tollman	2,651	783	783	98	2	7/1	1-3	50.00
Mary Hitchcock Memorial Hospital [2]	Hanover, N. H.	R. E. Miller	4,671	1,703	1,505	85	1	.....	1	.....
Elliot Hospital [1]	Manchester, N. H.	S. M. Brooks	3,440	1,148	822	68	1	.....	1	.....
Atlantic City Hospital [1]	Atlantic City, N. J.	F. W. Konzelmann	7,012	1,332	961	34	1	7/1	1	.....
Cooper Hospital [2]	Camden, N. J.	W. T. Read Jr.	8,670	1,926	1,854	41	1	7/1	1-3	83.33
West Jersey Hospital [1]	Camden, N. J.	G. O. Favorite	6,382	1,329	1,329	32	2	7/1	1	75.00
Jersey City Hospital [1,4]	Jersey City, N. J.	A. Gnassi	21,864	3,314	3,314	18	2	Varies	1-2	35.00
Newark Beth Israel Hospital [2,4]	Newark, N. J.	W. Antopol	10,657	3,431	3,431	32	7	7/1	1	25.00
Newark City Hospital [2]	Newark, N. J.	H. S. Martland	11,761	900	900	24	2	6/1	1-3	.....
Paterson General Hospital [1]	Paterson, N. J.	A. H. Davis	8,916	3,422	2,338	26	1	.....	1	.....
Albany Hospital [2,4]	Albany, N. Y.	A. W. Wright	13,482	6,172	6,172	60	6	7/1	1	41.67
Bender Hygienic Laboratory [3]	Albany, N. Y.	J. J. Clemmer	.....	9,506	9,506	..	4	7/1	3-4	100.00
Binghamton City Hospital [2]	Binghamton, N. Y.	V. W. Bergstrom	9,458	2,437	2,437	38	2	7/1	1	100.00
Brooklyn Hospital [2]	Brooklyn	J. A. deVeer	7,879	2,173	2,173	33	2	7/1	1-3	25.00
Cumberland Hospital [2,4]	Brooklyn	S. H. Polayes	6,297	1,805	3,613	30	1	7/1	1	120.00
Israel Zion Hospital [1,4]	Brooklyn	J. M. Ravid	10,677	1,753	1,753	27	2	7/1	1	100.00
Jewish Hospital [2,4]	Brooklyn	D. M. Grayzel	13,396	4,525	3,785	41	5	10/1	1	90.00
Kings County Hospital [2,4]	Brooklyn	C. Barn	57,609	5,118	9,510	17	6	7/1	1-2	70.00
Long Island College Hospital [2,4]	Brooklyn	J. R. Oliver	8,840	6,073	2,536	36	1	.....	1	25.00
St. John's Hospital [1]	Brooklyn	R. Gettinger	4,483	6,047	4,007	32	1	.....	1	.....
Buffalo General Hospital [2]	Buffalo	K. L. Terplan	10,015	3,725	3,701	44	6	7/1	1-3	25.00
Edward J. Meyer Memorial Hospital [2,4]	Buffalo	S. Sanes	10,345	2,290	1,661	38	4	7/1	3	100.00
Millard Fillmore Hospital [2]	Buffalo	A. V. Postoloff	12,165	5,073	5,040	31	1	.....	1-4	50.00
Meadowbrook Hospital [1]	Hempstead, N. Y.	T. J. Curphey	4,500	2,158	2,158	44	3	1/1	1	115.00
Queens General Hospital [2,4]	Jamaica, N. Y.	A. Angrist	12,937	9,595	9,296	45	5	.....	1-2	70.00
Mount Vernon Hospital [1]	Mount Vernon, N. Y.	J. G. Sharnoff	6,224	1,819	1,819	29	1	.....	1	.....
Beth Israel Hospital [2,4]	New York City	A. Plaut	7,622	2,363	2,363	32	2	7/1	1	50.00
Bronx Hospital [2]	New York City	J. Felsen	8,437	1,686	1,416	24	2	7/1	1-3	75.00
Flower and Fifth Avenue Hospitals [2]	New York City	G. Higgins	9,046	3,075	2,950	27	2	7/1	1	.....
Fordham Hospital [1,4]	New York City	L. R. Ferraro	11,719	1,878	1,875	21	3	7/1	1	.....
Goldwater Memorial Hospital [2,4]	New York City	J. Rosenthal	1,581	980	980	38	3	7/1	1	50.00
Harlem Hospital [4]	New York City	S. Weintraub	18,227	2,843	2,843	17	4	1/1, 7/1	1	70.00
Jewish Memorial Hospital [1]	New York City	A. Angrist	5,483	1,856	2,462	38	1	7/1	1-2	100.00
Lenox Hill Hospital [2,4]	New York City	G. L. Rohdenburg	11,939	2,824	2,821	44	1	7/1	1	50.00
Lincoln Hospital [2,4]	New York City	C. R. Brown	10,296	1,648	1,977	22	2	.....	1	.....
Memorial Hospital [1]	New York City	F. W. Stewart	5,300	17,104	17,104	49	5	.....	1-3	.....
Metropolitan Hospital [1,4]	New York City	A. Saccone	10,430	1,011	1,011	22	2	9/1, 10/1	1	100.00
Montefiore Hospital for Chronic Dis. [2,4]	New York City	H. M. Zimmerman	2,396	372[b]	372[b]	51	4	.....	1	25.00
Morrisania City Hospital [4]	New York City	W. Aronson	10,677	2,114	2,114	19	1	.....	1	.....
Mount Sinai Hospital [2,4]	New York City	P. Klemperer	14,826	5,863	5,863	63	10	.....	1	50.00
New York City Hospital [2]	New York City	J. R. Lisa	9,330	1,729	1,473	39	5	7/1	1	70.00
New York Hospital [2,4]	New York City	J. J. Kidd	18,899	7,249	6,732	60	1	.....	1	.....
New York Post-Graduate Medical School and Hospital [2,4]	New York City	M. N. Richter	8,584	4,065	4,027	38	3	1/1, 7/1	1+	30.00
Presbyterian Hospital [2,4]	New York City	H. P. Smith	27,442	5,839	4,961	58	3	.....	1	.....
Roosevelt Hospital [2,4]	New York City	W. W. Brandes	8,211	2,264	2,264	28	1	7/1	1	58.00
St. Luke's Hospital [2,4]	New York City	L. C. Knox	8,349	1,965	1,965	35	3	Varies	1-3	50.00
St. Vincent's Hospital [1,4]	New York City	A. Rottino	12,363	2,283	2,283	42	2	1/1	1-3	50.00
Sydenham Hospital [1]	New York City	A. Ginzler	6,325	1,263	1,100	26	2	7/1	1	100.00
Veterans Administration Hospital [3]	New York City	E. S. Olsen	10,838	.....	.....	30	2	.....	1-3	.....

Numerical and other references will be found on page 1375.

17. PATHOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Willard Parker Hospital [3,4]	New York City	V. P. Dolgopol	3,935	56	56	57	1	1/1	1	130.00
Rochester General Hospital [*1,4]	Rochester, N. Y.	M. G. Bohrod	11,204	5,700	4,560	72	4	7/1	1-3	60.00
St. Mary's Hospital [*3,4]	Rochester, N. Y.	S. M. Bouton	10,907	2,537	1,812	42	2	7/1	1	125.00
Strong Memorial-Rochester Municipal Hospitals [*2,4]	Rochester, N. Y.	G. H. Whipple	16,100	3,528	3,528	72	1	7/1	1-2	.....
Ellis Hospital [*3,4]	Schenectady, N. Y.	E. Kellert	13,694	3,958	3,958	29	1	7/1	1-3	100.00
Syracuse University Medical Center [*3]	Syracuse, N. Y.	.....	.....	4,542	4,542	..	1	7/1	1-3	41.66
Samaritan Hospital [*1,4]	Troy, N. Y.	S. H. Klinck Jr.	5,310	.....	.....	25	1	.....	1	.....
Grasslands Hospital [*3,4]	Valhalla, N. Y.	G. Y. McClure	3,914	1,485	1,325	51	2	7/1	1-3	75.00
Charlotte Memorial Hospital [*3]	Charlotte, N. C.	P. Kimmelstiel	10,134	5,026	4,910	48	3	4/1, 7/1	1-3	75.00
Duke Hospital [*2,4]	Durham, N. C.	W. D. Forbus	13,049	9,581	9,581	63	3	7/1	1	83.33
Watts Hospital [*1]	Durham, N. C.	J. C. Gunter	8,061	2,186	2,186	36	1	.....	1	.....
North Carolina Baptist Hospital [*3,4]	Winston-Salem, N. C.	R. P. Morehead	6,948	13,160	13,160	59	4	.....	1-3	.....
City Hospital [*1]	Akron, Ohio	L. Catron	14,088	4,117	4,117	35	2	.....	1	100.00
Christ Hospital [*1]	Cincinnati	J. W. Leichliter	10,434	6,559	2,943	38	1	7/1	1	.....
Cincinnati General Hospital [*1,4]	Cincinnati	R. W. Austin	14,093	2,130	2,109	36	8	.....	1	.....
Good Samaritan Hospital [*3]	Cincinnati	W. McK. Germain	14,729	6,557	8,421	23	1	7/1	1-2	105.00
City Hospital [*3,4]	Cleveland	H. G. Schlumberger	13,759	2,233	.....	36	6	7/1	1-4	50.00
Cleveland Clinic Foundation Hospital [2]	Cleveland	J. B. Hazard	7,447	3,111	3,111	35	1	7/1	1-3	100.00
Mount Sinai Hospital [*3,4]	Cleveland	B. S. Kline	8,459	2,778	2,778	36	2	7/1	1	100.00
St. Luke's Hospital [*1]	Cleveland	R. Dominguez	11,224	3,070	2,784	47	1	6/25	1	60.00
St. Vincent Charity Hospital [*1]	Cleveland	D. J. Rehbock	7,642	1,738	1,691	32	1	.....	1+	75.00
University Hospitals [*3]	Cleveland	H. T. Karsner	18,968	4,254	4,254	52	5	7/1	1	25.00
Starling-Loving University Hospital [*3,4]	Columbus, Ohio	H. L. Reinhart	7,386	3,003	2,978	66	2	7/1	1-3	50.00
White Cross Hospital [*3]	Columbus, Ohio	R. S. Fidler	10,035	7,316	6,030	32	2	.....	1-3	100.00
Miami Valley Hospital [*1]	Dayton, Ohio	M. Oosting	11,347	7,038	7,038	38	1	9/1	1-3	75.00
Toledo Hospital [*1]	Toledo, Ohio	B. Steinberg	8,126	2,369	1,803	53	1	.....	1	125.00
Youngstown Hospital [*1]	Youngstown, Ohio	H. K. Giffen	17,646	3,739	3,739	29	3	7/1	1	100.00
University Hospitals [*3]	Oklahoma City	H. C. Hopps and B. Halpert	6,070	1,777	1,554	33	3	7/1	1-2	35.00
Emanuel Hospital [*1,4]	Portland, Ore.	H. H. Foskett	11,465	4,134	4,163	43	1	4/1	1	75.00
Good Samaritan Hospital [*3]	Portland, Ore.	C. H. Manlove	13,145	3,367	.....	53	1	7/1	1	75.00
St. Vincent's Hospital [*1]	Portland, Ore.	F. R. Menne	10,527	.....	.....	43	2	.....	1	.....
University of Oregon Medical School Hospitals and Clinics [*3,4]	Portland, Ore.	W. C. Hunter	6,198	1,457	1,457	51	5	7/1	3	75.00
Abington Memorial Hospital [*3]	Abington, Pa.	J. Elman	8,794	2,454	2,432	47	2	7/1	1	100.00
Allentown Hospital [*3]	Allentown, Pa.	J. J. Wenner	9,542	3,922	2,225	31	1	.....	1-3	.....
Veterans Administration Hospital [1]	Aspinwall, Pa.	W. W. Bennett	5,789	919	2,429	33	3	Varies	1-3	.....
St. Luke's Hospital [*1]	Bethlehem, Pa.	H. A. Rothrock	7,277	1,537	1,537	43	1	6/1	1	100.00
Bryn Mawr Hospital [*1]	Bryn Mawr, Pa.	M. M. Strumia	7,214	3,897	2,822	45	2	4/1	1	100.00
George F. Geisinger Memorial Hospital [*1]	Danville, Pa.	H. F. Hunt	6,922	1,966	1,930	51	1	7/1	1	75.00
Pittsburgh City Home and Hospitals [4]	Mayview, Pa.	.....	64	.....	.....	..	1	.....	1	.....
Episcopal Hospital [*1,4]	Philadelphia	W. P. Belk	8,939	1,337	5,825	45	1	.....	1	50.00
Germantown Dispensary and Hospital [*]	Philadelphia	F. B. Lynch	6,951	1,273	724	60	1	7/1	1-2	50.00
Graduate Hospital of the University of Pennsylvania [*3]	Philadelphia	E. A. Case	5,347	1,961	1,961	76	3	7/1	1-2	.....
Hahnemann Hospital [*3,4]	Philadelphia	S. W. Sappington	10,995	.....	.....	46	2	.....	1-3	.....
Hospital of the University of Penna. [*3,4]	Philadelphia	E. B. Krumbhaar	16,324	2,889	2,889	75	12	Varies	1-3	.....
Jefferson Medical College Hospital [*3]	Philadelphia	C. J. Bucher	17,794	.....	.....	55	3	.....	1	.....
Jewish Hospital [*1,4]	Philadelphia	H. Ingleby	8,665	2,035	1,832	56	3	7/1	1-2	50.00
Lankenau Hospital [*3]	Philadelphia	C. E. Brown	5,534	5,569	5,569	59	1	7/1	1-3	100.00
Mount Sinai Hospital [*1,4]	Philadelphia	D. R. Meranze	6,458	2,466	2,466	61	1	6/1	1-2	50.00
Pennsylvania Hospital [*3]	Philadelphia	A. R. Crane	9,896	2,038	2,038	44	2	7/1	1-3	20.00
Philadelphia General Hospital [*3,4]	Philadelphia	J. H. Clark	21,004	2,113	2,113	70	6	.....	1-3	70.00
Presbyterian Hospital [*3]	Philadelphia	R. P. Custer	6,380	1,908	1,908	59	3	.....	1-3	50.00
Temple University Hospital [*3,4]	Philadelphia	E. E. Aegerter	11,561	5,459	5,459	50	3	7/1	3	50.00
Allegheny General Hospital [*3]	Pittsburgh	S. R. Haythorn	11,171	2,301	.....	23	2	7/1	1	100.00
Children's Hospital [1,4]	Pittsburgh	M. L. Menten	4,959	238	238	36	1	7/1	1-3	75.00
Elizabeth Steel Magee Hospital [1,4]	Pittsburgh	J. Beauregard	7,759	2,371	2,134	25	1	7/1	3	41.67
Mercy Hospital [*3,4]	Pittsburgh	H. H. Permar	13,502	3,732	3,545	29	2	9/1	1-3	.....
Montefiore Hospital [*1,4]	Pittsburgh	K. Yardumian	6,395	2,021	1,404	37	1	7/1	1	50.00
Presbyterian Hospital [*3,4]	Pittsburgh	G. R. Lacy	4,879	1,855	1,622	27	2	.....	1-5	33.00
St. Francis Hospital [*3]	Pittsburgh	A. J. Bruecken	11,418	5,776	1,712	25	2	.....	3	100.00
Western Pennsylvania Hospital [*1,4]	Pittsburgh	A. Graham	10,861	2,375	2,375	20	1	.....	1	75.00
Reading Hospital [*3,4]	Reading, Pa.	E. D. Funk	9,936	2,587	1,882	60	1	.....	1-3	50.00
Robert Packer Hospital [*1]	Sayre, Pa.	C. H. DeWan	9,160	5,732	1,864	47	1	7/1	1-3	150.00
Williamsport Hospital [*3]	Williamsport, Pa.	M. G. Colvin	9,160	1,938[b]	1,094[b]	31	1	.....	1	.....
Rhode Island Hospital [*3]	Providence, R. I.	B. E. Clarke	10,727	5,589	5,589	75	2	7/1	1-4	50.00
Roper Hospital [*3]	Charleston, S. C.	K. M. Lynch	10,193	2,732	2,732	42	3	7/1	1-3	.....
John Gaston Hospital [*3]	Memphis, Tenn.	D. H. Sprunt	16,602	5,543	2,806	56	6	7/1	1	32.50
St. Joseph Hospital [*1]	Memphis, Tenn.	T. C. Moss	10,932	5,249	3,758	34	1	7/1	1	.....
Nashville General Hospital [*1,4]	Nashville, Tenn.	W. A. DeMonbreum	5,965	898[b]	877[b]	30	2	.....	1	.....
Vanderbilt University Hospital [*4]	Nashville, Tenn.	E. W. Goodpasture	8,145	.....	.....	60	3	.....	1	.....
Baylor University Hospital [*3,4]	Dallas, Texas	J. M. Hill	15,376	21,577	13,696	30	5	7/1	1-3	50.00
Parkland Hospital [*1,4]	Dallas, Texas	C. T. Ashworth	9,411	2,457	2,249	41	1	.....	1	.....
St. Paul's Hospital [*3]	Dallas, Texas	J. L. Goforth	13,647	6,696	4,746	25	2	7/1	1-3	50.00
John Sealy Hospital [*3]	Galveston, Texas	P. Brindley	8,540	2,265	1,941	62	2	.....	1-3	50.00
Jefferson Davis Hospital [*4]	Houston, Texas	W. W. Coulter Sr.	11,480	1,734	1,758	23	1	1/1	1	50.00
Santa Rosa Hospital [*3]	San Antonio, Texas	J. M. Moore and R. S. Bohls	12,539	6,810	5,487	22	1	3/1, 9/1	1-3	200.00
Salt Lake County General Hospital [*3]	Salt Lake City	F. Gunn	3,853	748[b]	748[b]	65	1	.....	1-3	.....
Mary Fletcher Hospital [*3,4]	Burlington, Vt.	B. Pearson	5,411	1,186	1,174	59	3	7/1	1-3	.....
Norfolk General Hospital [*3]	Norfolk, Va.	L. J. Motyca	9,234	5,800	5,390	58	1	7/1	1-3	100.00
Med. College of Virginia Hospital Div. [*3,4]	Richmond, Va.	F. L. Apperly	14,397	5,599	5,599	42	2	.....	1	.....
Providence Hospital [*3]	Seattle	D. G. Mason	11,649	3,230	1,895	46	1	7/1	1	100.00
Deaconess Hospital [*3]	Spokane, Wash.	G. A. C. Snyder	8,171	3,547	2,800	43	1	.....	3	150.00
Tacoma General Hospital [*1]	Tacoma, Wash.	C. P. Larson	7,698	.....	.....	29	1	.....	1	150.00
Charleston General Hospital [*3]	Charleston, W. Va.	W. G. J. Putschar	10,377	2,259	2,167	48	2	.....	1	.....
State of Wisconsin General Hospital [*3,4]	Madison, Wis.	W. D. Stovall	12,037	3,110	3,089	64	3	7/1	3	25.00
Columbia Hospital [*1,4]	Milwaukee	G. Ritchie	4,398	1,769	1,178	49	1	11/1	1-3	50.00
Milwaukee County Hospital [*1,4]	Milwaukee	J. F. Kuzma	14,401	962	913	33	2	Varies	1-3	75.00
St. Joseph's Hospital [*]	Milwaukee	W. A. D. Anderson	12,180	2,231	2,163	25	2	7/1	1-3	75.00
Gorgas Hospital [*3]	Ancon, C. Z.	J. G. Bennett	16,083	1,990	1,950	83	1	7/1	1	250.00
Queen's Hospital [*3]	Honolulu, Hawaii	S. Price	12,961	3,673	3,517	67	1	10/1	1-2	.....

Hospitals, 269; Assistant Residencies and Residencies, 619

Numerical and other references will be found on page 1375.

18. PEDIATRICS

The following services approved by the Council are accredited by the American Board of Pediatrics
(See footnotes 1 and 2 for number of years credit)

United States Navy.—Residencies available to medical officers, U. S. Navy.
†U. S. Naval Hospital ★[1] ..... Chelsea, Mass.
U. S. Naval Hospital ★ ..... Philadelphia

Name of Hospital	Location	Chief of Service	Inpatients Treated *	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies *	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Children's Hospital [2,4]	Birmingham, Ala.	A. A. Walker	1,797	4,861	58	30	2	7/1	1-2	$100.00
Jefferson and Hillman Hospitals ★[2,4]	Birmingham, Ala.	A. A. Walker	2,116	3,632	104	30	2	7/1	1	30.00
Norwood Hospital ★[1,4]	Birmingham, Ala.	S. P. Wainwright	932	7,902	21	10	1	.....	1	.....
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company ★[1]	Fairfield, Ala.	E. A. Harris	813	6,005	21	12	1	7/1	1-3	200.00
General Hospital of Fresno County ★[1,4]	Fresno, Calif.	R. G. VanWagenen	747	1,324	63	28	1	.....	1-2	205.00
California Babies' and Children's Hosp.[1,4]	Los Angeles	E. T. Hansen	377	13,340	1	1	1	7/1	1	200.00
Children's Hospital [2,4]	Los Angeles	E. Fish	1,741	39,210	122	103	9	.....	1-2	.....
Los Angeles County Hospital ★[2,4]	Los Angeles	E. F. Patton	4,036	3,058	164	81	5	Varies	2	157.20
White Memorial Hospital ★[1,4]	Los Angeles	M. B. Brooks	324	9,033	..	..	6	.....	1-3	135.00
Children's Hospital of the East Bay [2,4]	Oakland, Calif.	G. Sweet	2,976	20,828	21	49	6	Varies	1-2	150.00
Children's Hospital ★[2,4]	San Francisco	C. F. Geiston	522	3,360	9	11	2	7/1	1-2	50.00
†Franklin Hospital ★[1,4]	San Francisco	C. Bost	784	.....	5	5	1	7/1	1	100.00
St. Mary's Hospital ★[1]	San Francisco	J. M. Rector	.....	.....	..	..	1	10/1	1	100.00
San Francisco Hospital ★[1]	San Francisco	M. B. Olney	633	.....	24	5	2	.....	1	200.00
Stanford University Hospitals ★[2,4]	San Francisco	H. K. Faber	550	17,220	24	18	6	7/1	1-2	50.00
University of California Hospital ★[2,4]	San Francisco	F. S. Smyth	607	11,032	46	38	4	7/1	1	50.00
Childrens Hospital [2,4]	Denver	W. W. Barber	.....	.....	..	..	10	7/1	1	50.00
†Colorado General Hospital ★[2,4]	Denver	H. H. Gordon	332	2,371	21	18	3	7/1	1-3	85.00
Denver General Hospital ★[1]	Denver	W. Jones	1,771	6,504	33	20	2	4/1, 10/1	1-2	50.00
†Hartford Hospital ★[1]	Hartford, Conn.	E. Caulfield	692	.....	27	16	2	7/1	1-2	50.00
Grace-New Haven Community Hospital New Haven Unit ★[2,4]	New Haven, Conn.	G. Powers	2,478	12,133	..	..	4	7/1	1	40.00
Hospital of St. Raphael ★[1]	New Haven, Conn.	W. C. McGuire	1,550	178	16	10	1	7/1	1	75.00
†Delaware Hospital ★[1]	Wilmington, Del.	C. E. Wagner	270	318	22	16	1	7/1	1	125.00
Children's Hospital [2,4]	Washington, D. C.	J. S. Wall	6,889	51,458	271	218	22	1/1	1-3	40.00
Freedmen's Hospital ★[2,4]	Washington, D. C.	R. B. Scott	2,548	1,796	125	33	2	7/1	1	75.00
Gallinger Municipal Hospital ★[2,4]	Washington, D. C.	L. K. Sweet	1,094	7,910	45	20	10	7/1	1-3	75.00
Grady Memorial Hospital ★[2]	Atlanta, Ga.	R. W. Dickson	1,006	25,670	73	35	6	7/1	1	20.00
Henrietta Egleston Hosp. for Children [2,4]	Atlanta, Ga.	M. H. Roberts	.....	.....	..	..	2	1/1	1	50.00
University Hospital ★[4]	Augusta, Ga.	P. Mulherin	1,404	1,411	72	12	3	7/1	1-2	40.00
Children's Memorial Hospital [2,4]	Chicago	S. Gibson	4,047	47,590	106	97	16	1/1, 7/1	1	.....
Cook County Hospital ★[2,4]	Chicago	A. H. Parmalee	7,103	.....	345	280	11	Varies	1-3	.....
Mercy Hospital-Loyola Univ. Clinics ★[1,4]	Chicago	H. W. Elghammer	1,336	1,944	16	11	1	7/1	1-2	25.00
Michael Reese Hospital ★[2,4]	Chicago	J. Calvin	3,595	4,607	..	..	7	.....	1-3	25.00
†Mount Sinai Hospital ★[1,4]	Chicago	A. Levinson	612	803	9	5	1	7/1	1	50.00
Presbyterian Hospital ★[2,4]	Chicago	H. N. Sanford	1,140	3,192	43	37	2	7/1	1-2	25.00
Provident Hospital ★[2,4]	Chicago	E. W. Beasley	293	3,668	17	15	1	.....	1	.....
Research and Educational Hospitals ★[2,4]	Chicago	H. G. Poncher	278	4,936	21	..	3	7/1	1-2	55.00
†St. Joseph Hospital ★[1]	Chicago	A. L. Hoyne	708	.....	20	12	1	.....	1	.....
St. Luke's Hospital ★[2,4]	Chicago	A. D. Biggs	388	5,722	13	10	2	7/1	1-3	25.00
St. Vincent's Infant and Maternity Hosp.[1,4]	Chicago	L. W. Sauer	930	.....	5	4	2	.....	1	.....
University of Chicago Clinics ★[2,4]	Chicago	F. H. Wright	1,091	21,654	29	25	7	7/1	1-3	25.00
Little Company of Mary Hospital ★[1]	Evergreen Park, Ill.	E. Lawler	1,641	.....	17	6	1	1/1	1	100.00
Indianapolis City Hospital ★[1,4]	Indianapolis	J. C. Carter	554	5,075	107	35	1	.....	1	.....
Indiana University Medical Center ★[2,4]	Indianapolis	M. Winters	1,865	5,029	145	91	4	.....	1-2	33.33
†Iowa Methodist Hospital (Raymond Blank Memorial Hospital for Children) ★[2]	Des Moines, Iowa	L. F. Hill	4,077[b]	950[b]	..	..	2	Varies	1	.....
University Hospitals ★[2,4]	Iowa City	B. C. Jeans	1,138	2,886	39	26	5	7/1	1	40.00
University of Kansas Hospitals ★[2,4]	Kansas City, Kan.	F. Neff	818	3,451	36	24	1	.....	1	.....
Louisville General Hospital ★[2,4]	Louisville, Ky.	J. W. Bruce	2,008	8,429	208	77	7	4/1	1-4	45.00
†St. Joseph Infirmary ★[1]	Louisville, Ky.	H. Andrews	3,204	.....	26	9	2	7/1	1	75.00
Charity Hospital of Louisiana ★[2,4]	New Orleans		2,792	21,058	149	75	16	7/1	1-2	25.00
Touro Infirmary ★[2]	New Orleans	J. Graubarth	491	4,195	12	8	1	7/1	1	17.50
†Shreveport Charity Hospital ★	Shreveport, La.	C. Webb	1,338	.....	55	25	2	7/1	1-3	60.00
†Central Maine General Hospital ★[1]	Lewiston, Maine	G. L. Brooks	1,492	.....	12	6	1	7/1	1	50.00
Baltimore City Hospitals ★[2,4]	Baltimore	H. E. Harrison	651	2,065	46	36	2	7/1	1	35.00
Johns Hopkins Hospital ★[2,4]	Baltimore	F. F. Schwentker	1,412	34,964	161	120	6	7/1	1+	.....
Union Memorial Hospital ★[1,4]	Baltimore	D. C. W. Smith	385[b]	1,806[b]	..	..	2	7/1	1	.....
University Hospital ★[1,4]	Baltimore	C. L. Joslin	636	8,885	119	79	6	7/1	1-2	.....
Boston City Hospital ★[2,4]	Boston	M. L. English	3,731	6,749	158	25	1	.....	1-2	50.00
Boston Floating Hospital [2,4]	Boston	J. M. Baty	1,177[b]	.....	..	..	6	4/1, 7/1	1	25.00
Children's Hospital ★[2,4]	Boston		.....	.....	..	..	6	.....	1	.....
Massachusetts General Hospital ★[2]	Boston	A. M. Butler	667	5,024	26	17	7	7/1	1-3	41.67
University Hospital ★[2,4]	Ann Arbor, Mich.	J. L. Wilson	1,256	8,653	54	36	20	.....	1	.....
Children's Hospital [2,4]	Detroit	P. V. Woolley	3,631	19,449	275	168	19	7/1	1	50.00
†Harper Hospital ★[1]	Detroit	D. J. Barnes	4,218[b]	.....	..	..	2	.....	1	.....
Henry Ford Hospital ★[2,4]	Detroit	J. A. Johnston	1,831	19,713	29	14	5	7/1	1-2	200.00
Providence Hospital ★[1]	Detroit	L. P. Sonda	5,634	.....	90	71	1	.....	1	.....
St. Mary's Hospital ★[1]	Duluth, Minn.	R. E. Nutting	1,916	.....	42	39	3	.....	1	.....
Minneapolis General Hospital ★[2,4]	Minneapolis	A. V. Stoesser	2,899	2,369	90	55	6	1/1, 7/1	1-3	100.00
†Northwestern Hospital ★	Minneapolis	E. S. Platou	2,077	.....	31	26	2	1/1	1	50.00
†St. Barnabas Hospital ★[1]	Minneapolis	L. F. Richdorf	747	.....	5	4	1	.....	1	.....
University Hospitals ★[2,4]	Minneapolis	I. McQuarrie	212	3,252	68	43	13	7/1	1-3	100.00
Mayo Foundation [2]	Rochester, Minn.	H. F. Helmholz	(See page 1375)				12	.....	1	.....
Children's Mercy Hospital [1,4]	Kansas City, Mo.	C. B. Summers	1,484	9,569	61	34	4	7/1	1-2	50.00
Kansas City General Hospital No. 1 ★[1]	Kansas City, Mo.	D. Walthal	1,866	5,296	57	35	3	7/1	2-3	50.00
Homer G. Phillips Hospital ★[2,4]	St. Louis	P. J. White	1,869	3,825	80	17	3	7/1	1	50.00
†Jewish Hospital ★[1,4]	St. Louis	A. A. Margulis	789	.....	8	6	1	.....	1	.....
St. Louis Children's Hospital [2,4]	St. Louis	A. F. Hartmann	2,938	.....	144	95	6	7/1	1	.....
St. Louis City Hospital ★[2,4]	St. Louis	A. F. Hartmann	1,336	2,783	116	65	7	7/1	1	86.00
St. Mary's Group of Hospitals ★[2]	Boston	S. Tartakoff	1,687	13,788	43	26	5	Varies	3	35.00
†Creighton Memorial St. Joseph Hosp.[1,4]	Omaha	J. H. Murphy	1,638	2,763	23	9	1	7/1	1-2	100.00
Jersey City Hospital ★[1,4]	Jersey City, N. J.	C. P. DeFuccio	1,885	6,588	43	14	2	Varies	1-2	35.00
†Babies Hospital, Coit Memorial [1]	Newark, N. J.	E. L. Minard	1,946	2,668	53	19	1	7/1	1	100.00
†St. Michael's Hospital ★[1]	Newark, N. J.	H. A. Murray	1,433	523	28	16	1	6/1	1	150.00
Albany Hospital ★[2,4]	Albany, N. Y.	O. A. Faust	736	.....	37	26	3	7/1	1	41.67
†Beth-El Hospital ★[1]	Brooklyn	A. Litvak	3,398	1,203	16	8	3	7/1	1-2	100.00
†Brooklyn Hospital ★[1]	Brooklyn	H. A. Naumer	454	5,429	28	14	2	7/1	1-2	25.00
Cumberland Hospital ★[1,4]	Brooklyn	T. B. Givan	1,558	3,180	45	32	2	7/1	1	70.00
Jewish Hospital ★[2,4]	Brooklyn	B. Kramer	679	9,920	49	31	6	Varies	1	30.00
Kings County Hospital ★[2,4]	Brooklyn	G. Brockway and L. Krahulik	4,748	3,597	158	62	4	7/1	1-2	70.00
Long Island College Hospital ★[2,4]	Brooklyn	C. A. Weymuller	612	7,314	31	14	4	7/1	1-2	25.00
†Methodist Hospital ★	Brooklyn	W. F. Watton	.....	2,522	41	8	1	7/1	1	25.00

Numerical and other references will be found on page 1375.

18. PEDIATRICS—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Norwegian Lutheran Deaconesses' Home and Hospital ★[4]	Brooklyn	J. A. Monfort and T. B. Givan	.....	.....	..	..	1	.....	1	.....
†St. Mary's Hospital ★	Brooklyn		929	330	16	7	1	.....	1	.....
Children's Hospital [2,4]	Buffalo	M. I. Rubin	2,213	.....	112	74	7	1/1, 7/1	1	25.00
Edward J. Meyer Memorial Hospital ★[1,4]	Buffalo	F. J. Gustina	1,512	4,604	62	23	3	7/1	4	100.00
Queens General Hospital ★[2,4]	Jamaica, N. Y.	H. A. Reisman	1,394	2,000	51	44	6	.....	1-2	70.00
Bellevue Hosp. Div. III—N. Y. Univ. ★[2,4]	New York City	L. E. Holt Jr.	1,651	23,950	130	62	5	7/1	1	45.00
†Beth Israel Hospital ★[1,4]	New York City	J. M. Lewis and P. Cohen	317	2,111	12	5	1	1/1	1	50.00
Flower and Fifth Avenue Hospitals ★[2,4]	New York City	R. Benson	2,431	3,478	14	7	4	7/1	1	.....
Fordham Hospital ★[1]	New York City	J. Golomb	1,646	1,885	37	31	2	4/1	1	70.00
Harlem Hospital ★[2,4]	New York City	M. Gleich	1,222	6,074	66	28	3	1/1, 7/1	1	70.00
Lenox Hill Hospital ★[2,4]	New York City	H. Chaplin	511	5,918	12	8	1	7/1	1	50.00
Lincoln Hospital ★[2,4]	New York City	A. T. Martin	1,093	4,354	43	30	3	1/1, 7/1	1	70.00
Metropolitan Hospital ★[2,4]	New York City	R. A. Benson	1,158	4,670	65	46	4	1/1, 7/1	1	100.00
Morrisania City Hospital ★[2,4]	New York City	L. H. Barenberg	913	1,483	33	19	2	7/1	1	70.00
Mount Sinai Hospital ★[2,4]	New York City	.....	.....	.....	..	..	5	.....	1	50.00
New York City Hospital ★[2,4]	New York City	C. E. Boyd	739	3,813	43	39	2	7/1	1	70.00
New York Hospital ★[2,4]	New York City	S. Z. Levine	1,207	32,490	99	82	6	7/1	1-5	25.00
†New York Infirmary ★[1]	New York City	R. Bakwin	234	4,016	6	3	1	7/1	1	75.00
New York Post-Graduate Medical School and Hospital ★[2,4]	New York City	A. DeSanctis	781	12,835	38	25	6	7/1	1	30.00
Presbyterian Hospital ★[2,4]	New York City	R. McIntosh	3,815	34,369	122	..	16	.....	1+	41.66
†Roosevelt Hospital ★[1]	New York City	A. T. Martin	521	2,049	6	3	1	7/1	1	25.00
†St. Clare's Hospital ★	New York City	C. H. O'Regan	2,383	4,803	9	6	3	1/1	1	25.00
St. Luke's Hospital ★[2,4]	New York City	H. F. Jackson	597	5,822	13	5	3	Varies	1-3	50.00
St. Vincent's Hospital ★[1,4]	New York City	S. Brady	1,138	5,502	31	16	2	7/1	1-3	50.00
Genesee Hospital ★[1,4]	Rochester, N. Y.	J. Aikman	428	.....	11	7	1	.....	1	.....
†Rochester General Hospital ★[1,4]	Rochester, N. Y.	F. W. Bush	522	1,149	14	11	1	7/1	1	85.00
Strong Memorial and Rochester Municipal Hospitals ★[2,4]	Rochester, N. Y.	S. W. Clausen	1,500	8,391	70	59	7	7/1	1-4	41.66
†St. Vincent's Hospital ★[1]	Staten Island, N. Y.	G. W. McCormick	2,391	230	25	14	1	7/1	1	50.00
Sea View Hospital [1,4]	Staten Island, N. Y.	B. Ratner	380	.....	6	2	6	1/1, 7/1	1	120.00
Syracuse Memorial Hospital ★[2,4]	Syracuse, N. Y.	B. C. Doust	774	.....	17	6	4	7/1	1-2	.....
Grasslands Hospital ★[4]	Valhalla, N. Y.	F. D. Barnes	413	917	17	10	2	7/1	1-3	75.00
Charlotte Memorial Hospital ★[1,4]	Charlotte, N. C.	C. H. Gay	670	3,497	31	13	1	1/1	1-2	75.00
†Presbyterian Hospital [1]	Charlotte, N. C.	R. A. Moore	803	.....	7	..	1	.....	1	.....
Duke Hospital ★[2,4]	Durham, N. C.	W. C. Davison	2,179	9,086	73	40	3	7/1	1	.....
Watts Hospital ★[2]	Durham, N. C.	A. H. London	819	218	14	2	3	7/1	1	75.00
†Sternberger Hospital for Women and Children [1]	Greensboro, N. C.	S. F. Ravenel	.....	.....	..	..	1	.....	1	.....
†Rex Hospital ★[1,4]	Raleigh, N. C.	A. S. Root	2,202	457	22	5	1	4/1	1	150.00
Babies Hospital [1,4]	Wilmington, N. C.	J. B. Sidbury	1,233	.....	37	5	2	1/1, 7/1	..	100.00
†James Walker Memorial Hospital ★[1]	Wilmington, N. C.	J. B. Sidbury	2,919	.....	67	14	1	7/1	1	75.00
North Carolina Baptist Hospital ★[2,4]	Winston-Salem, N. C.	D. J. Butler	462	1,484	20	13	3	.....	1-3	.....
Trinity Hospital ★[1,9]	Minot, N. D.		.....	.....	..	..	1	.....	1	.....
Children's Hospital	Akron, Ohio		3,402	1,041	70	41	2	7/1	1-2	100.00
Children's Hospital [2,4]	Cincinnati	A. A. Weech	6,577	21,529	130	79	16	7/1	1-2	35.00
Cincinnati General Hospital ★[2,4]	Cincinnati	A. A. Weech	1,045	7,457	126	62	16	7/1	1-2	.....
University Hospitals ★[2,4]	Cleveland	C. F. McKhann	1,600	14,618	76	58	10	7/1	1	25.00
Children's Hospital [2,4]	Columbus, Ohio	E. H. Baxter	1,658	5,401	..	..	8	1/1, 7/1	1	60.00
University Hospitals ★[2,4]	Oklahoma City	C. H. Hall	911	3,638	81	30	3	7/1	1-2	35.00
†Hillcrest Memorial Hospital ★[1]	Tulsa, Okla	H. Graham	2,837	.....	73	19	5	7/1	1	75.00
University of Oregon Medical School Hospitals and Clinics ★[2,4]	Portland, Ore	J. B. Bilderback	1,047	4,504	60	47	3	7/1	2	75.00
†Abington Memorial Hospital ★[1]	Abington, Pa	T. S. Wilder	2,180	2,920	13	12	1	5/1	1	50.00
Babies' Hospital [1,4]	Philadelphia	J. F. Sinclair	259	23,762	7	3	2	1/1	1	83.33
Children's Hospital [2,4]	Philadelphia	J. Stokes Jr.	2,498	32,807	88	65	13	7/1	1	41.67
Children's Hospital of the Mary J. Drexel Home [1,4]	Philadelphia	J. M. Lyon	1,000	8,918	7	4	1	7/1	1	125.00
†Germantown Dispensary and Hospital ★[1]	Philadelphia	P. S. Barba	1,062	623	18	8	1	7/1	1-2	50.00
†Graduate Hospital of the University of Pennsylvania ★[1]	Philadelphia	J. Scott	128	322	3	2	1	7/1	1-2	.....
Hahnemann Hospital ★[1,4]	Philadelphia	C. C. Fischer	945	4,375	36	25	1	.....	1	.....
Hospital of the Univ. of Pennsylvania ★[2,4]	Philadelphia	J. Stokes Jr.	509	3,886	42	35	4	Varies	1-3	.....
†Hosp. of the Women's Med. Coll of Pa. ★[2]	Philadelphia	E. P. Bacon	1,601	2,078	7	5	1	7/1	1	.....
Jefferson Medical College Hospital ★[1]	Philadelphia	E. L. Bauer	691	8,287	58	26	2	.....	1	.....
Jewish Hospital ★[1,4]	Philadelphia	S. Goldberg	653	.....	13	9	2	7/1	1-2	50.00
Philadelphia General Hospital ★[2,4]	Philadelphia		1,146	.....	67	..	2	.....	1-3	70.00
St. Christopher's Hospital for Children [1,4]	Philadelphia	R. J. Tyson	.....	.....	..	..	7	.....	1	.....
†St. Luke's and Children's Medical Center ★[1]	Philadelphia	J. L. Redman	375	.....	25	7	1	6/1	1	125.00
Temple University Hospital ★[2,4]	Philadelphia	W. E. Nelson	426	5,117	60	57	7	7/1	3	50.00
Children's Hospital [2,4]	Pittsburgh		.....	.....	..	..	10	7/1	1-3	75.00
†Western Pennsylvania Hospital ★[1]	Pittsburgh	H. C. Flood	1,620	476	21	8	1	.....	1	75.00
†Charles V. Chapin Hospital [1]	Providence, R. I.	H. G. Calder	957	311	28	22	3	Varies	1	.....
†Rhode Island Hospital ★[1]	Providence, R. I.	W. P. Buffum	887	2,259	45	36	1	7/1	1	100.00
Roper Hospital ★[2,4]	Charleston, S. C.	M. W. Beach	779	4,747	55	27	5	7/1	1-4	25.00
T. C. Thompson Children's Hospital [1]	Chattanooga, Tenn.	O. L. VonCanon	965	6,548	76	4	2	.....	1	90.00
†Knoxville General Hospital ★[1]	Knoxville, Tenn.	W. R. Cross	709	313	64	15	1	7/1	1	60.00
John Gaston Hospital ★[2]	Memphis, Tenn.	F. T. Mitchell	1,866	5,385	131	74	6	7/1	1	32.50
†Methodist Hospital ★	Memphis, Tenn.	C. V. Croswell	4,513	.....	50	16	1	7/1	1	150.00
†St. Joseph Hospital ★[2]	Memphis, Tenn.	G. J. Levy	2,846	761	106	30	1	7/1	1	.....
George W. Hubbard Hospital of Meharry Medical College ★[2,4]	Nashville, Tenn.	W. P. Hardy	195	3,609	31	8	2	7/1	1-3	75.00
Vanderbilt University Hospital ★[2,4]	Nashville, Tenn.		704	11,193	97	74	5	7/1	1	.....
Children's Medical Center [2,4]	Dallas, Texas	B. Knickerbocker	2,667	11,988	117	39	12	7/1	1-3	50.00
†Parkland Hospital ★[1]	Dallas, Texas	W. H. Bradford	1,668[b]	.....	..	..	2	.....	1	.....
John Sealy Hospital ★[2,4]	Galveston, Texas	A. E. Hansen	632	10,077	62	37	9	.....	1-3	50.00
†Hermann Hospital ★[1,4]	Houston, Texas	J. H. Park	443	3,656	30	23	2	7/1	1-3	50.00
Jefferson Davis Hospital ★[1,4]	Houston, Texas	H. S. Meyer	1,088[b]	4,600[b]	..	..	1	7/1	1	50.00
Salt Lake County General Hospital ★[2,4]	Salt Lake City	J. Anderson	469	2,896	18	22	2	7/1	1	25.00
†Mary Fletcher Hospital ★[1]	Burlington, Vt.	S. S. Corbin	885	301	11	9	2	7/1	1	.....
University of Virginia Hospital ★[2,4]	Charlottesville, Va.	W. W. Waddell	689	5,288	71	26	3	7/1	1-4	62.00
Medical College of Virginia, Hosp. Div. ★[2,4]	Richmond, Va.	L. H. Sutton	1,399	6,143	56	17	5	7/1	1	46.50
Children's Orthopedic Hospital [1,4]	Seattle	J. I. Durand	1,036	17,179	44	35	1	.....	1	.....
State of Wisconsin General Hospital ★[2,4]	Madison, Wis.	J. E. Gonce Jr.	711	3,733	30	18	2	7/1	3	25.00
Milwaukee Children's Hospital [2,4]	Milwaukee	F. R. Janney	5,043	25,471	76	43	6	7/1	1	75.00
Milwaukee County Hospital ★[2,4]	Milwaukee	B. J. Malnekoff	1,098	2,893	6	1	2	Varies	1-3	75.00

Hospitals, 180; Assistant Residencies and Residencies, 717

Numerical and other references will be found on page 1375.

19. PHYSICAL MEDICINE

United States Army.—Residencies available to medical officers, U. S. Army.
†Letterman General Hospital *.....San Francisco
†Fitzsimons General Hospital *.....Denver
Walter Reed General Hospital *.....Washington, D. C.
†Percy Jones General Hospital *.....Battle Creek, Mich.

Name of Hospital	Location	Chief of Service	Patients Treated	Number of Treatments	Asst. Res. and Residencies *	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Los Angeles County Hospital *‡	Los Angeles	O. Huddelston	.....	97,205	1	Varies	..	$157.20
†White Memorial Hospital *	Los Angeles	F. B. Moor	500	20,000	2	7/1	3	32.00
Stanford University Hospitals *‡	San Francisco	W. H. Northway	.....	6,409	2	7/1	1-2	50.00
†University of California Hospital *‡	San Francisco	F. Baker	.....	7,123	1	7/1	1	50.00
†Colorado General Hospital *‡	Denver	H. Dinken	13,471	34,303	3	7/1	1-3	85.00
Michael Reese Hospital *‡	Chicago	C. O. Molander	3,638	.....	2	.....	1	25.00
Passavant Memorial Hospital *‡	Chicago	J. S. Coulter	7,784	12,696	2[b]	.....	1	.....
†Veterans Administration Hospital	Hines, Ill.	L. B. Newman	.....	193,000	3	9/1	1	275.00
University of Kansas Hospitals *	Kansas City, Kan.	G. M. Martin	.....	.....	3	.....	1½	.....
†Massachusetts General Hospital *	Boston	A. L. Watkins	1,639	16,265	2	.....	1-3	41.67
†University Hospitals *‡	Minneapolis	M. Knapp	8,264	13,343	2	7/1	1-3	100.00
Mayo Foundation	Rochester, Minn.	F. H. Krusen	(See page 1375)		6	v	1	.....
†Goldwater Memorial Hospital *‡	New York City	H. Behrend	873	61,648	1	7/1	1	50.00
†Hospital for Joint Diseases *‡	New York City	J. Weiss	.....	100,502	2	9/1	1+	40.00
†Montefiore Hospital for Chronic Diseases *‡	New York City	K. Harpuder	.....	.....	1	.....	1+	.....
†Mount Sinai Hospital *‡	New York City	W. Bierman	6,497	8,283	1	1/1, 7/1	1	50.00
†Presbyterian Hospital *‡	New York City	W. B. Snow	89,419	174,650	1	.....	1	41.66
St. Luke's Hospital *	New York City	R. Muller	23,363	96,757	1	.....	1	.....
†Veterans Administration Hospital	New York City	.....	.....	.....	3	v	1	.....
†Cleveland Clinic Foundation Hospital *	Cleveland	W. J. Zeiter	19,224	38,033	1	7/1	1-3	100.00
†Veterans Administration Hospital	Portland, Ore.	M. C. Riddle	.....	.....	3	.....	2	275.00
†Hospital of the Univ. of Pennsylvania *‡	Philadelphia	G. M. Piersol	1,239	23,345	1	Varies	1	.....
†Medical College of Virginia, Hosp. Div.*	Richmond, Va.	.....	2,705	25,680	1	.....	1	46.50
†State of Wisconsin General Hospital *‡	Madison, Wis.	H. D. Bouman	1,276	32,617	2	.....	1	.....

Hospitals, 24; Assistant Residencies and Residencies, 45

20. PLASTIC SURGERY

Name of Hospital	Location	Chief of Service	Inpatients Treated *	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies *	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Veterans Administration Hospital	Hines, Ill.	P. W. Greeley	491	.....	..	..	2	1/1	1-3	$300.00
†University of Kansas Hospitals *	Kansas, City, Kan.	E. C. Padgett	227	.....	..	..	2	.....	2-4	.....
†Charity Hospital of Louisiana *‡	New Orleans	.....	(Included in Surgery)				3	7/1	1-3	75.00
†Blodgett Memorial Hospital *	Grand Rapids, Mich.	F. Smith	527	.....	..	..	2	7/1	1-3	175.00
Mayo Foundation	Rochester, Minn.	G. B. New	(See page 1375)				4	.....	3	.....
†Barnes Hospital *	St. Louis	J. B. Brown	1,049	.....	6	3	6	7/1	1-3	25.00
†Hospital of St. Barnabas and for Women and Children *	Newark, N. J.	L. A. Peer	410	1,200	1	1	2	.....	1	.....
Kings County Hospital *	Brooklyn	W. A. Coakley	(Incl. in Surgery)		35	3	2	7/1	2	70.00
†New York Post-Graduate Medical School and Hospital *‡	New York City	G. Aufricht	134	927	..	..	2	1/1, 7/1	2	None
Presbyterian Hospital *‡	New York City	.....	.....	.....	..	..	4	.....	2	100.00
†Veterans Administration Hospital	New York City	H. Conway	240	.....	..	..	4	7/1	1-4	303.00
Strong Memorial-Rochester Municipal Hospitals *	Rochester, N. Y.	F. O. J. Young	176	217	..	..	2	7/1	1-3	.....
†University Hospitals *	Oklahoma City	J. F. Burton	190	583	9	2	2	7/1	1-2	35.00
Graduate Hospital of the University of Pennsylvania *	Philadelphia	R. H. Ivy	220	179	1	1	1	7/1	1-2	.....
†Jefferson Medical College Hospital *	Philadelphia	W. B. Davis	522	16	3	..	2	.....	1-3	.....
†State of Wisconsin General Hospital *‡	Madison, Wis.	W. B. Slaughter	239	486	..	..	2	1/1, 7/1	1-3	25.00

Hospitals, 16; Assistant Residencies and Residencies, 42

21. PROCTOLOGY

United States Navy.—Residencies available to medical officers, U. S. Navy.
†U. S. Naval Hospital *.....Oakland, Calif.

Name of Hospital	Location	Chief of Service	Inpatients Treated *	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies *	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Mercy Hospital-Loyola University Clinics *	Chicago	C. L. Martin	399	.....	2	2	1	7/1	1	$ 75.00
†U. S. Marine Hospital *	Baltimore	.....	.....	.....	..	..	1	7/1	1-4	176.66
†City of Detroit Receiving Hospital *‡	Detroit	H. I. Kallet	163	859	6	..	1	4/1	1+	100.00
Mayo Foundation	Rochester, Minn.	L. A. Buie	(See page 1375)				8	.....	1	.....
†Millard Fillmore Hospital *	Buffalo	.....	431	.....	9	..	1	7/1	1-4	50.00
†Youngstown Hospital *	Youngstown, Ohio	P. J. Fuzy	327	.....	5	1	4	7/1	1-3	100.00
†Allentown Hospital *‡	Allentown, Pa.	M. L. Kleckner	457	31	23	8	3	.....	1	.....
†Jefferson Medical College Hospital *	Philadelphia	B. F. Haskell	352	2,188	11	1	1	7/1	1-3	.....
†Presbyterian Hospital *‡	Pittsburgh	K. Zimmerman	417	516	21	17	5	Varies	1-5	33.00
†Reading Hospital *‡	Reading, Pa.	F. G. Runyeon	433	151	8	5	8	7/1	1	125.00
†Milwaukee County Hospital *‡	Milwaukee	A. G. Schutte	415	642	2	1	1	Varies	1-3	75.00

Hospitals, 11; Assistant Residencies and Residencies, 34

Numerical and other references will be found on page 1375.

22. PSYCHIATRY

The following services are approved by the Council and the American Board of Psychiatry and Neurology (See footnotes 1, 2 and 3 for number of years credit)

United States Army.—Residencies available to medical officers, U. S. Army.

†Letterman General Hospital ★3.....San Francisco
†Walter Reed General Hospital ★2.....Washington, D. C.
†Brooke General Hospital ★2.....San Antonio, Texas
†Madigan General Hospital ★1.....Fort Lewis, Wash.

United States Navy.—Residencies available to medical officers, U. S. Navy.

†U. S. Naval Hospital ★1.....Great Lakes, Ill.
†U. S. Naval Hospital ★1.....Bethesda, Md.
†U. S. Naval Hospital ★1.....Philadelphia
†U. S. Naval Hospital ★1.....Portsmouth, Va.

Name of Hospital	Location	Chief of Service	Inpatients Treated*	Outpatient Visits	Deaths	Autopsies	Asst., Res. and Residencies*	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Veterans Administration Hospital [3]	N. Little Rock, Ark.	C. N. Baganz	2,103	10,434	..	..	15	1/1, 7/1	1-3	$275.00
Compton Sanitarium [1,4]	Compton, Calif.	G. E. Meyers	764	.....	10	1	4	Varies	1	150.00
†Napa State Hospital [1,4]	Imola, Calif.	W. A. Oliver	5,552	350	501	68	2	Varies	1	125.00
Livermore Sanitarium [1]	Livermore, Calif.	C. W. Mack	884	.....	6	..	1	1/1	1	250.00
Los Angeles County Hospital ★[3,4]	Los Angeles	M. G. Carter	5,484	.....	73	12	1	Varies	1	157.20
†Veterans Administration Hospital [1]	Palo Alto, Calif.	R. M. Fellows	2,058	1,488	97	12	30	Varies	1-5	275.00
Langley-Porter Clinic [3,4]	San Francisco	K. M. Bowman	654	14,732	..	..	20	Varies	1-3	240.00
Mount Zion Hospital ★[2]	San Francisco	N. Reider	36	963	..	..	3	7/1	1	75.00
Stanford University Hospitals ★[3,4,7]	San Francisco	G. S. Johnson	542	3,507	4	1	5	7/1	1-2	50.00
University of California Hospital ★[3,4]	San Francisco	K. M. Bowman	30	2,646	..	..	1	7/1	1	50.00
Mendocino State Hospital [2,4]	Talmage, Calif.	W. Rapaport	3,747	.....	115	27	2	.....	1	.....
†Veterans Administration Center [3]	W. Los Angeles, Calif.	R. L. Harris	2,577	.....	114	..	25	8/1	3	275.00
Colorado Psychopathic Hospital [3,4]	Denver	F. G. Ebaugh	883	5,027	25	16	16	7/1	1-3	125.00
Colorado State Hospital [2,4]	Pueblo, Colo.	F. H. Zimmerman	5,193	.....	369	149	10	.....	1	275.00
Institute of Living (Neuro-Psychiatric Institute of the Hartford Retreat)[3,4]	Hartford, Conn.	C. C. Burlingame	1,399	.....	12	2	9	.....	1+	250.00
Connecticut State Hospital [3,4]	Middletown, Conn.	B. Simon	3,874	.....	246	71	3	Varies	1	100.00
Grace-New Haven Community Hospital New Haven Unit ★[2,4]	New Haven, Conn.	W. T. Brown	353	2,143	..	..	9	7/1	1	40.00
†Fairfield State Hospital [1,4]	Newtown, Conn.	S. Friedman	3,184	21	215	52	4	Varies	1-3	200.00
Norwich State Hospital [3,4]	Norwich, Conn.	R. H. Guthrie	3,398	.....	255	47	6	.....	1	190.00
Delaware State Hospital [2,4]	Farnhurst, Del.	M. A. Tarumianz	1,537	1,006	100	26	6	1/1, 7/1	1-2	125.00
Gallinger Municipal Hospital ★[1,4]	Washington, D. C.	J. F. Gilbert	3,782	.....	108	21	2	7/1	1-3	75.00
St. Elizabeths Hospital ★[3,4]	Washington, D. C.	W. Overholser	8,942	.....	424	..	10	.....	1	200.00
†University Hospital ★[4]	Augusta, Ga.	H. Cleckley	376	1,400	2	1	1	.....	1	.....
Chicago State Hospital [2,4]	Chicago	I. Spinka	6,280	2,967	657	93	7	1/1	1-3	150.00
Cook County Hospital ★[3,4]	Chicago	C. A. Neymann	.....	.....	..	..	5	Varies	1-3	27.50
Illinois Neuropsychiatric Institute [3,4,7]	Chicago	F. J. Gerty	148	5,757	1	..	3	7/1	3	55.00
Michael Reese Hospital ★[2,4,7]	Chicago	R. Grinker	259	3,978	..	..	10	.....	1-3	.....
St. Luke's Hospital ★[1,4]	Chicago	A. P. Solomon	270[b]	.....	..	..	1	7/1	1-3	25.00
University of Chicago Clinics ★[2,4]	Chicago	H. Brosin	152	4,052	..	..	4	7/1	1-3	25.00
Veterans Rehabilitation Center [1,4]	Chicago	D. Slight	240	5,423	..	..	6	Varies	1	150.00
Wesley Memorial Hospital ★[2,4]	Chicago	T. T. Stone	442	.....	1	..	1	1/1, 7/1	1-3	25.00
Elgin State Hospital [3,4]	Elgin, Ill.	E. Liebert	7,088	2,030	471	159	11	Varies	1-3	150.00
Veterans Administration Hospital [3]	Hines, Ill.		1,225	111,556	..	..	30	1/1	1-3	308.33
†Jacksonville State Hospital [1,4]	Jacksonville, Ill.		3,178	1,537	319	11	5	Quarterly	1-3	.....
†Kankakee State Hospital [1,4]	Kankakee, Ill.	A. Simon	5,090	9,000	351	58	4	1/1	1-3	150.00
Manteno State Hospital [2,4]	Manteno, Ill.	M. Wallenberg	7,143	.....	573	125	5	Varies	1	150.00
Peoria State Hospital [2,4]	Peoria, Ill.	H. B. Knowles	3,558	.....	282	14	2	7/1	1	150.00
†North Shore Health Resort [1]	Winnetka, Ill.	S. Liebman	407	.....	7	4	2	Varies	1	50.00
Central State Hospital [2]	Indianapolis	M. A. Bahr	2,306	.....	200	15	4	.....	1	.....
Indianapolis City Hospital ★[2]	Indianapolis	D. L. Boyd	766	971	36	17	1	.....	2	.....
†Norways Sanatorium [2]	Indianapolis	P. B. Reed	217	900	4	..	2	7/1	1-3	50.00
Logansport State Hospital [3,4]	Logansport, Ind.	C. C. Chapin	2,259	.....	223	35	8	.....	1	.....
†Veterans Administration Hospital [3]	Marion, Ind.		2,004	419	106	17	15	.....	1-3	150.00
Iowa State Psychopathic Hospital [3,4]	Iowa City	W. R. Miller	336	1,637	1	1	5	4/1, 7/1	1	40.00
Menninger Sanitarium [3,4]	Topeka, Kan.	R. P. Knight	156	13,684	..	..	2	.....	1-3	.....
†Veterans Administration Hospital [3]	Topeka, Kan.	J. F. Casey	671	1,075	13	9	125	1/1, 7/1	1-3	275.00
U. S. Public Health Service Hospital [2]	Lexington, Ky.	J. V. Lowry	1,856	.....	25	14	1	.....	1	.....
†Veterans Administration Hospital [3]	Lexington, Ky.	S. R. Baker	887	400	38	..	8	7/1	1-2	275.00
†Louisville General Hospital ★[1]	Louisville, Ky.	W. E. Gardner	680	1,656	17	7	1	.....	1	.....
†Veterans Administration Hospital	Louisville, Ky.		212	.....	80	47	18	1/1, 7/1	1-3	275.00
†Charity Hospital of Louisiana ★[1,4]	New Orleans		(See Neurology)				2	7/1	1-3	25.00
†DePaul Sanitarium [1,4]	New Orleans	H. O. Colomb	1,033	1,413	18	14	5	1/1, 6/1	1-3	75.00
Johns Hopkins Hospital ★[3,4]	Baltimore	J. C. Whitehorn	208	4,795	2	1	4	7/1	1-4+	.....
†Seton Institute [3]	Baltimore	C. H. Rogerson	487	.....	31	..	3	Varies	1-3	125.00
Spring Grove State Hospital [2,4]	Catonsville, Md.	S. W. Weltmer	2,971	1,538	177	57	12	.....	1	.....
†Chestnut Lodge Sanitarium [3]	Rockville, Md.	D. M. Bullard	100	600	4	1	4	Varies	1-2	175.00
Springfield State Hospital [2,4]	Sykesville, Md.	K. B. Jones	3,695	.....	212	38	10	.....	1	220.00
Sheppard and Enoch Pratt Hospital [2,4]	Towson, Md.	R. McC. Chapman	366	166	10	7	8	3/1, 7/1	1-3	100.00
†Veterans Administration Hospital [2]	Bedford, Mass.		2,302	.....	78	25	6	.....	1-3	275.00
Boston Psychopathic Hospital [3,4]	Boston	H. C. Soloman	1,251	6,590	12	4	10	Varies	1-2	83.33
Boston State Hospital [3,4]	Boston	E. V. Semrad	2,865	290	391	76	8	7/1	1-2	140.00
†Joseph H. Pratt Diagnostic Hospital [1]	Boston	M. E. Cohen	1,365	1,918	14	10	3	7/1	1-3	83.33
Massachusetts General Hospital ★[3]	Boston	S. Cobb	175	2,591	..	..	7	.....	1-3	41.67
†Peter Bent Brigham Hospital ★[1]	Boston	H. M. Fox	.....	.....	..	..	2	9/1	1-2	125.00
†Veterans Administration Hospital [2]	Boston	S. Tartakoff	730	.....	141	58	4	4/1, 10/1	1	275.00
Foxboro State Hospital [2,4]	Foxboro, Mass.	R. B. Dexter	1,556	421	132	11	2	1/1, 4/1	1	100.00
†Veterans Administration Hospital [3]	Framingham, Mass.	W. Bloomberg	479	.....	3	3	24	3/1, 9/1	1-3	.....
Gardner State Hospital [3,4]	Gardner, Mass.	C. E. Thompson	1,785	562	87	16	9	.....	1	200.00
Danvers State Hospital [3,4]	Hathorne, Mass.	S. Jacobs	3,002	1,050	289	37	2	.....	1	140.00
Medfield State Hospital [2]	Medfield, Mass.	E. K. Holt	2,096	.....	154	10	2	.....	1	.....
Northampton State Hospital [2,4]	Northampton, Mass.	L. W. Darrah	2,815	.....	223	12	10	Varies	1	.....
Grafton State Hospital [2,4]	North Grafton, Mass.	H. L. Paine	2,067	850	111	8	2	7/1	1	100.00
Monson State Hospital [1]	Palmer, Mass.	L. J. Robinson	1,500	.....	79	..	2[d]	1/1	1-2	100.00
Taunton State Hospital [2,4]	Taunton, Mass.	R. M. Chambers	2,484	1,758	269	112	7	7/1	1-3	200.00
Metropolitan State Hospital [1,4]	Waltham, Mass.	W. C. Gaebler	1,986	.....	231	89	2	.....	1	140.00
McLean Hospital [3,4]	Waverley, Mass.	K. J. Tillotson	388	.....	14	1	8	4/1, 7/1	1	.....
Westboro State Hospital [2,4]	Westboro, Mass.	R. V. Hadley	2,155	.....	139	32	2	Varies	1-2	.....
Worcester State Hospital [3,4]	Worcester, Mass.	D. Rothschild	3,480	.....	270	35	10	.....	1-3	.....
University Hospital ★[3,4]	Ann Arbor, Mich.	R. W. Waggoner	454	3,675	3	2	15	Varies	1-3	101.40
City of Detroit Receiving Hospital ★[1,4]	Detroit	J. Stanton	5,604	646	148	29	4	7/15	1+	149.67
Henry Ford Hospital ★[2,4,7]	Detroit	T. J. Heldt	712	8,898	22	7	5	7/1	1-3	200.00
Wayne County General Hospital and Infirmary ★[3,4]	Eloise, Mich.	L. S. Lipschutz	5,083	2,564	301	55	4	7/1	1-2	197.50
Kalamazoo State Hospital [3,4]	Kalamazoo, Mich.	R. A. Morter	4,524	1,916	313	10	5	.....	1	.....
Pontiac State Hospital [3,4]	Pontiac, Mich.	P. V. Wagley	2,312	212	165	83	12	Varies	1-3	300.00
Traverse City State Hospital [3,4]	Traverse City, Mich.	M. M. Nickels	3,331	50	267	70	3	Varies	1-3+	300.00
Ypsilanti State Hospital [3,4]	Ypsilanti, Mich.	O. R. Yoder	3,987	417	244	66	6	.....	1	.....

Numerical and other references will be found on page 1375.

22. PSYCHIATRY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated*	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies*	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Minneapolis General Hospital ★1,4,7	Minneapolis	J. C. Michael	1,372	1,197	154	55	1	1/1, 7/1	1	.....
University Hospitals ★3,4	Minneapolis	D. W. Hastings	313	.....	3	1	14	7/1	1-3	100.00
Mayo Foundation 3	Rochester, Minn.	H. W. Woltman	(See Neurology; also page 1375)							
†Veterans Administration Hospital 2	St. Cloud, Minn.	C. F. Davis	1,596	697	43	2	2	.....	2	.....
St. Peter State Hospital 2	St. Peter, Minn.	G. H. Freeman	2,932	.....	281	36	1	.....	1-2	75.00
State Hospital No. 1 2,4	Fulton, Mo.	W. J. Cremer	2,515	.....	223	27	3	7/1	1-3	150.00
Kansas City General Hospital No. 1,★1,7	Kansas City, Mo.	B. L. Elliott	505	651	43	15	1	Varies	1-2	50.00
State Hospital No. 2 2	St. Joseph, Mo.	G. W. Forman	2,933	.....	207	42	2	.....	1-3	100.00
Barnes Hospital ★3,4	St. Louis	E. F. Gildea	582	.....	7	3	7	7/1	1-3	25.00
City Sanitarium 2,4	St. Louis	L. H. Kohler	3,968	.....	206	61	15	.....	1	141.00
Homer G. Phillips Hospital ★2	St. Louis	E. F. Gildea	(See Neurology)				1	7/1	1	50.00
St. Louis City Hospital ★2,4	St. Louis	H. Molholm	2,272	13	152	59	10	7/1	1-3	86.00
St. Vincent's Sanitarium 1	St. Louis	P. E. Kubitschek	519	.....	19	12	2	.....	1	.....
Hastings State Hospital 2,4	Ingleside, Neb.	J. C. Nielsen	2,000	.....	123	18	8	Varies	1-4	250.00
Norfolk State Hospital 2,4	Norfolk, Neb.	G. L. Sandritter	1,291	266	79	23	4	Varies	1-3	200.00
Bishop Clarkson Memorial Hospital ★2	Omaha	A. E. Bennett	375	.....	15	10	1	9/1	1	100.00
†Lutheran Hospital 1,4	Omaha	G. A. Young Sr.	532[b]	.....	..	..	1	.....	1	150.00
New Hampshire State Hospital 2,4	Concord, N. H.	C. H. Dolloff	3,418	.....	335	72	1	.....	1	115.00
New Jersey State Hospital 2,4	Greystone Park, N. J.	M. A. Curry	8,142	.....	562	83	5	Varies	..	[c]300.00
New Jersey State Hospital 2,4	Marlboro, N. J.	J. B. Gordon	3,700	1,484	319	137	7	.....	1	.....
New Jersey State Hospital 2	Trenton, N. J.	J. B. Spradley	4,128	.....	271	45	2	.....	1	100.00
Albany Hospital ★3,4,7	Albany, N. Y.	S. E. Barrera	1,386	.....	36	17	4	7/1	1	41.67
Hillside Hospital 2,4	Bellerose, N. Y.	I. Silbermann	372	1,224	5	1	6	.....	2	125.00
Binghamton State Hospital 2,4	Binghamton, N. Y.	H. S. Gregory	3,302	.....	281	36	3	.....	1	.....
Brooklyn State Hospital 2,4	Brooklyn	C. H. Bellinger	3,352	4,097	771	88	12	7/1	3	.....
Buffalo State Hospital 2,4	Buffalo	C. Fletcher	3,157	14	267	45	2	Varies	1+	250.00
Edward J. Meyer Mem. Hospital ★2,4	Buffalo	L. A. Osborn	1,510	477	87	18	3	7/1	1-3	100.00
Central Islip State Hospital 2,4	Central Islip, N. Y.	D. Corcoran	8,796	2,451	528	109	8	.....	1	208.33
Gowanda State Homeopathic Hospital 2,4	Helmuth, N. Y.	R. W. Bohn	3,339	.....	259	51	2	1/1	1-2	275.00
†Pinewood Sanitarium 1	Katonah, N. Y.	M. Friedemann	264	.....	2	..	2	1/1	1-2	175.00
Kings Park State Hospital 2	Kings Park, N. Y.	A. E. Soper	7,684	2,031	400	72	11	.....	1	.....
†River Crest Sanitarium	Long Island City, N.Y	L. R. Harrison	361	.....	13	2	2	1/1	1	150.00
Marcy State Hospital 2	Marcy, N. Y.	N. J. T. Bigelow	3,073	.....	231	28	4	.....	1	.....
Middletown State Homeopathic Hosp. 2,4	Middletown, N. Y.	W. A. Schmitz	3,695	391	210	67	6	Varies	1	225.00
Bellevue Hospital, Div. III—N. Y. Univ. ★3,4	New York City	S. B. Wortis	20,000	10,000	..	..	32	7/1	1	70.00
Manhattan State Hospital 2,4	New York City	J. H. Travis	5,928	.....	868	202	4	.....	1	208.33
†Mount Sinai Hospital ★4	New York City	M. R. Kaufman	.....	.....	..	..	2	1/1, 7/1	1	50.00
New York Hospital ★3,4	New York City	O. Diethelm	338	3,978	1	..	14	7/1	1-5	50.00
New York State Psychiatric Institute and Hospital 3,4	New York City	I. H. MacKinnon	422	1,061	..	..	9	.....	1-2	.....
U. S. Marine Hospital 2,7	New York City		1,592	847	12	5	..	.....	1	.....
†Veterans Administration Hospital	New York City		.....	.....	..	..	12	7/1	1-3	275.00
†Veterans Administration Hospital	Northport, N. Y.	H. Potter	2,506	.....	73	30	19	10/1	1-3	275.00
St. Lawrence State Hospital 2,4	Ogdensburg, N. Y.	J. A. Pritchard	2,619	.....	193	5	4	.....	1	.....
Rockland State Hospital 2,4	Orangeburg, N. Y.	R. E. Blaisdell	7,481	.....	403	89	8	1/1	1	200.00
Hudson River State Hospital 2,4	Poughkeepsie, N. Y.	J. R. Ross	5,052	444	451	81	2	Varies	1	208.33
Creedmoor State Hospital 2	Queens Village, N. Y.	H. A. LaBurt	6,940	3,039	542	76	9	Varies	1	225.00
Rochester State Hospital 2,4	Rochester, N. Y.	J. L. VanDeMark	3,776	1,806	383	21	2	Varies	1	225.00
Strong Memorial-Rochester Municipal Hospitals ★2,4	Rochester, N. Y.	J. Romano	471	645	..	..	3	7/1	1-4	.....
Syracuse Psychopathic Hospital 2,4	Syracuse, N. Y.	H. A. Steckel	732	1,034	21	..	3	Varies	1-2	225.00
Utica State Hospital 2,4	Utica, N. Y.	A. W. Pense	2,306	174	223	22	2	.....	1	.....
Grasslands Hospital ★2,4	Valhalla, N. Y.	J. G. Lynn	1,377	393	36	12	5	7/1	1-3	122.50
Pilgrim State Hospital 2,4	W. Brentwood, N. Y.	H. J. Worthing	9,529	2,256	538	127	20	Varies	1	208.33
New York Hospital-Westchester Div. 2,4	White Plains, N. Y.	J. H. Wall	742	.....	17	..	9	1/1	1-3	125.00
†Willard State Hospital	Willard, N. Y.	K. Kelli	3,290	1,940	294	30	5	Varies	2	225.00
Harlem Valley State Hospital 2,4	Wingdale, N. Y.	A. M. Stanley	5,292	1,159	273	50	5	Varies	1-2	225.00
Duke Hospital ★2,4	Durham, N. C.	R. S. Lyman	253	5,828	..	..	3	7/1	1	83.33
†Christ Hospital ★1	Cincinnati	H. D. Fabing	276	.....	..	..	1	7/1	1	100.00
Cincinnati General Hospital ★2,4	Cincinnati	M. Rosenbaum	958	643	12	3	3	7/1	1-2	.....
Longview State Hospital 2,4	Cincinnati	D. Goldman	3,581	.....	249	46	3	Varies	1	.....
City Hospital ★3,4	Cleveland	L. J. Karnosh	672	1,491	28	11	3	7/1	1-4	60.00
†Cleveland Clinic Foundation Hosp. 2	Cleveland		1,086	6,000	51	24	2	7/1	1-3	100.00
†Cleveland State Hospital 1	Cleveland	E. H. Crawfis	3,271	.....	170	40	2	7/1	1-2	100.00
†Veterans Administration Hospital 3	Cleveland	A. B. Adam	174	.....	..	..	15	7/1	1-3	275.00
Columbus State Hospital 2	Columbus, Ohio	J. F. Bateman	3,134	2,990	188	44	4	Varies	1-3	150.00
Massillon State Hospital 2,4	Massillon, Ohio	A. G. Hyde	3,213	711	362	74	3	1/1	1	100.00
Harding Sanitarium 1	Worthington, Ohio	G. T. Harding	336	.....	6	..	2	.....	1	.....
†Central Oklahoma State Hospital	Norman, Okla.	M. P. Prosser	.....	.....	..	..	3	.....	1	.....
Oregon State Hospital 2	Salem, Ore.	J. C. Evans	4,036[b]	.....	..	..	2	.....	1-3	.....
†Allentown State Hospital 2	Allentown, Pa.	M. Rossman	1,843	674	129	10	3	.....	2	325.00
†Veterans Administration Hospital 3	Coatesville, Pa.	C. R. Miller	2,160	1,232	49	..	30	.....	1-3	.....
Danville State Hospital 2,4	Danville, Pa.	V. J. Cassone	2,797	1,142	139	14	3	.....	1	.....
Harrisburg State Hospital 2,4	Harrisburg, Pa.	H. K. Petry	2,440	150	186	56	4	Varies	1-3	326.66
Norristown State Hospital 2	Norristown, Pa.	A. P. Noyer	5,047	.....	399	108	8	Varies	1-3	325.00
Friends Hospital 1,4	Philadelphia	T. L. Dehne	400	.....	15	6	4	7/1	1-2	200.00
Institute of the Pennsylvania Hospital 2,4	Philadelphia	L. H. Smith	902	3,362	2	..	8	Varies	1	100.00
Jefferson Medical College Hospital ★1	Philadelphia		.....	1,023	..	..	1	.....	1	.....
Pennsylvania Hospital, Department for Mental and Nervous Diseases 3,4	Philadelphia	L. H. Smith	537	1,172	14	..	10	Varies	1	100.00
Philadelphia General Hospital ★2,4	Philadelphia		3,219	.....	235	..	3	.....	1-3	70.00
†Philadelphia Psychiatric Hospital 2,4	Philadelphia	N. W. Winkelman	401	254	2	2	7	7/1	1-2	100.00
Philadelphia State Hospital 2,4	Philadelphia	E. L. Sielke	6,725	.....	289	55	6	.....	1-2	.....
Temple University Hospital ★2,4	Philadelphia	O. S. English	.....	1,200	..	..	2	7/1	1-3	80.00
St. Francis Hospital ★1,4	Pittsburgh	H. L. Mitchell and C. H. Henninger	3,014	277	69	16	3	.....	1-3	100.00
Western State Psychiatric Institute and Clinic 2,4	Pittsburgh	R. A. Clark	342	960	8	5	12	7/1	2	175.00
Warren State Hospital 2	Warren, Pa.	R. H. Israel	3,197	.....	190	15	8	.....	1-5	217.00
†Woodville State Hospital 2	Woodville, Pa.	C. A. Koenig	2,026	.....	203	..	4	7/1, 9/1	2	175.00
State Hospital for Mental Diseases 2,4	Howard, R. I.	J. F. Regan	3,702	621	300	61	6	Varies	1-3	190.00
Butler Hospital 1,4	Providence, R. I.	A. H. Ruggles	311	1,169	29	1	6	Varies	1-2	.....
Charles V. Chapin Hospital 1,4	Providence, R. I.	R. L. Garrard	712	743	12	3	1	4/1	1	150.00
†Beverly Hills Sanitarium 1	Dallas, Texas	A. J. Schwenkenberg	690	.....	18	..	4	7/1	1-3	.....
†Timberlawn Sanitarium	Dallas, Texas	G. F. Witt	252	.....	1	..	1	Varies	1-2	50.00
U. S. Public Health Service Hospital 2	Fort Worth, Texas	R. T. Hewitt	2,911	.....	..	..	5	.....	1	.....
†Galveston State Psychopathic Hospital 1	Galveston, Texas		523	.....	3	1	4	.....	1-3	208.00
John Sealy Hospital ★2,4	Galveston, Texas	T. H. Harris	1,088	2,590	16	12	4	.....	1-3	50.00
†Veterans Administration Hospital 3	Waco, Texas	C. L. Yeager	3,098	.....	84	16	25	Varies	1-3	275.00
†Vermont State Hospital 1,4	Waterbury, Vt.	J. E. Roy	1,458	.....	133	4	2	Varies	1-3	100.00

Numerical and other references will be found on page 1375.

22. PSYCHIATRY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
University of Virginia Hospital ★[2,4]	Charlottesville, Va.	D. C. Wilson	773	1,972	1	1	6	7/1	1-3	75.00
Medical College of Virginia, Hosp. Div.★[2]	Richmond, Va.	R. F. Gayle	517	2,388	6	2	3	7/1	1-3	46.50
†Veterans Administration Hospital [3]	Roanoke, Va.		2,535	.....	86	27	15	.....	1	.....
Western State Hospital [2,4]	Ft. Steilacoom, Wash.	R. H. Rea	3,691	.....	341	135	6	.....	1	.....
Eastern State Hospital [2,4]	Medical Lake, Wash.	H. A. Perry	2,527	332	233	11	6	4/1, 7/1	1-2	255.00
Northern State Hospital [2,4]	Sedro Woolley, Wash.	S. Halvorsen	2,100	200	239	..	2	Varies	1½	373.00
State of Wisconsin General Hospital ★[2,4,7]	Madison, Wis.	W. F. Lorenz	1,268	694	23	14	2	7/1	3	25.00
†Veterans Administration Hospital [3]	Mendota, Wis.		311	.....	10	..	10	1/1	3	275.00
Milwaukee County Hosp. for Mental Dis.[2,4]	Milwaukee	M. Kasak	1,928	1,478	26	16	9	1/1, 7/1	3	50.00
†Veterans Administration Hospital [3]	Milwaukee		564	1,656	11	11	4	Varies	3-5	275.00
Milwaukee Sanitarium [2,4]	Wauwatosa, Wis.	J. A. Kindwall	444	.....	8	1	1	.....	1-3	.....
Queen's Hospital ★[2,4]	Honolulu, Hawaii		1,249	.....	7	4	1	7/1	1-2	.....

Hospitals, 193; Assistant Residencies and Residencies, 1,298

23. PULMONARY DISEASES

United States Army.—Residencies available to medical officers, U. S. Army.

†Fitzsimons General Hospital ★.....Denver

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Los Angeles Sanatorium [4]	Duarte, Calif.	J. Segal	342	1,561	44	19	4	.....	1	.....
Arroyo-Del Valle Sanatorium [4]	Livermore, Calif.	C. Bush	456	490	60	1	1	7/1	1	$150.00
Barlow Sanatorium [4]	Los Angeles	H. W. Bosworth	177	1,670	1	..	2	7/1	1	100.00
Los Angeles County Hospital ★[4]	Los Angeles	C. R. Howson	1,682	2,178	516	38	3	Varies	1	.....
Pottenger Sanatorium and Clinic [4]	Monrovia, Calif.	F. M. Pottenger	832	1,612	13	4	1	.....	1	.....
Bret Harte Sanatorium	Murphys, Calif.	E. P. Smart	274	3,262	7	2	1	7/1	1-2	354.00
Olive View Sanatorium [4]	Olive View, Calif.	L. Tepper	1,766	.....	94	28	13	.....	1	393.00
San Diego County General Hospital ★	San Diego, Calif.	B. R. Simpson	195	1,949	51	9	1	7/1	1	187.00
San Francisco Hospital ★[4]	San Francisco	F. M. Faber	754	.....	237	25	4	Varies	1	175.00
Santa Clara County Hospital ★	San Jose, Calif.	C. Ianne	258[b]	4,154[b]	..	..	2	.....	1	225.00
Fairmont Hospital of Alameda County [4]	San Leandro, Calif.	H. G. Trimble	253	1,240	55	20	1	7/1	1-3	105.00
Denver General Hospital ★	Denver	B. T. McMahon	150	6,168	41	5	1	7/1	1	50.00
National Jewish Hospital [4]	Denver	A. Hurst	.....	.....	..	..	5	1/1, 7/1	1-3	100.00
Sanatorium of the Jewish Consumptives' Relief Society	Spivak, Colo.	P. J. Sparer	342	557	26	8	4	Varies	1	.....
Undercliff Sanatorium [4]	Meriden, Conn.	C. B. Gibson	386	2,628	62	7	1	7/1	1-2	208.66
Norwich State Tuberculosis Sanatorium (Uncas-on-Thames)	Norwich, Conn.	W. H. Weidman	671	4,710	76	16	2	Varies	1	235.00
Laurel Heights State Tuberculosis Sanatorium	Shelton, Conn.	E. J. Lynch	507	3,384	65	4	2	Varies	1	115.00
Gaylord Farm Sanatorium [4]	Wallingford, Conn.	D. R. Lyman	315	3,000	2	..	2	5/1, 10/1	1	100.00
Tuberculosis Sanatorium (Glenn Dale, Md. P. O.)	Washington, D. C.	D. L. Finucane	947	.....	169	74	10	Varies	1-5	408.50
†Battey State Hospital [4]	Rome, Ga.	H. E. Crowe and F. C. Crenshaw	1,608	2,076	72	16	1	.....	1	200.00
†City of Chicago Municipal Tuberculosis Sanitarium [4]	Chicago	H. C. Sweany	1,000	.....	442	142	2	1/1	1-3	100.00
University of Chicago Clinics ★	Chicago	R. G. Bloch	.....	795	..	..	1	7/1	2	25.00
Macon County Tuberculosis Sanatorium [4]	Decatur, Ill.	D. F. Loewen	146	7,743	9	9	1	1/1	1	175.00
Pleasant View Sanatorium	East St. Louis, Ill.	W. S. Broker	191	5,531	22	..	1	7/1	1-2	150.00
Peoria Municipal Tuberculosis Sanatorium [4]	Peoria, Ill.	M. Pollak	184	3,125	29	15	1	.....	1	175.00
Rockford Municipal Tuberculosis Sanatorium [4]	Rockford, Ill.	W. J. Bryan	231	3,250	16	3	1	.....	1-3	250.00
Lake County Tuberculosis Sanatorium [4]	Waukegan, Ill.	C. K. Petter	275	3,013	49	27	1	1/1, 7/1	1-2	.....
Boehne Tuberculosis Hospital [4]	Evansville, Ind.	P. D. Crimm	399	820	49	49	2	7/1	1-2	250.00
Indianapolis City Hospital ★	Indianapolis	J. D. White	158	2,620	42	5	1	.....	1	.....
Sunnyside Sanatorium	Indianapolis	F. L. Jennings	380	316	50	17	2	Varies	1-2	.....
Healthwin Hospital	South Bend, Ind.		340	.....	39	12	1	1/1	1-2	150.00
State Sanatorium [4]	Oakdale, Ia.	W. M. Spear	702	1,760	79	11	1	.....	1	100.00
†Veterans Administration Hospital	Alexandria, La.	I. Epstein	699	.....	102	5	1	.....	1	275.00
†Charity Hospital of Louisiana ★[4]	New Orleans, La.		1,008	8,649	284	31	5	7/1	1-2	100.00
Western Maine Sanatorium [4]	Greenwood Mt., Me.	L. Adams	277	362	31	5	1	Varies	1	.....
Baltimore City Hospital ★[4]	Baltimore	H. V. Langeluttig	611	.....	154	73	2	7/1	1	125.00
Boston Sanatorium	Boston	J. A. Foley	1,009	.....	206	..	5	Varies	1	150.00
Rutland State Sanatorium [4]	Rutland, Mass.	P. Dufault	596	.....	60	9	1	.....	1	.....
Norfolk County Hospital	S. Braintree, Mass.	N. R. Pillsbury	176	695	20	2	2	.....	1-2	220.00
Middlesex County Sanatorium [4]	Waltham, Mass.	F. P. Dawson	542	16,473	64	3	2	Varies	1-2	220.00
Westfield State Sanatorium [4]	Westfield, Mass.	D. A. Martin	385	.....	65	..	5	7/1	1-2	200.00
Belmont Hospital [4]	Worcester, Mass.	R. H. Baker	269	7,763	41	13	2	.....	1	155.00
University Hospital ★[4]	Ann Arbor, Mich.	D. Jenkins	8	1,115	3	2	2	.....	1	.....
American Legion Hospital	Battle Creek, Mich.	L. C. Manni	437	437	45	2	1	.....	1	.....
Herman Kiefer Hospital [4]	Detroit	P. T. Chapman	1,700	40,392	270	120	11	7/1	1+	333.00
Michigan State Sanatorium [4]	Howell, Mich.	E. W. Laboe	695	2,210	60	1	8	Varies	1	300.00
Ingham Sanatorium [4]	Lansing, Mich.	C. J. Stringer	361	18,973	26	19	2	.....	1	200.00
Morgan Heights Sanatorium	Marquette, Mich.	F. J. Phillips	154	.....	16	1	1	1/1	1	.....
William H. Maybury Sanatorium [4]	Northville, Mich.	H. S. Willis	1,530	.....	195	83	3	.....	1	.....
Oakland County Tuberculosis Hospital [4]	Pontiac, Mich.	A. S. Kimball Jr.	325	5,429	29	4	3	1/1	1-3	250.00
Nopeming Sanatorium [4]	Nopeming, Minn.	G. A. Hedberg	528	.....	27	15	1	1/1	1	.....
Glen Lake Sanatorium [4]	Oak Terrace, Minn.	E. S. Mariette	1,010	16,554	101	23	4	Varies	1	.....
Mississippi State Tuberculosis Sanatorium.	Sanatorium, Miss.	H. Boswell	597	1,897	35	1	2	7/1	2-3	175.00
†Veterans Administration Hospital	Excelsior Springs, Mo.	R. H. Kaplan	1,197	2,014	56	16	6	Varies	1-3	275.00
Kansas City Municipal Tuberculosis Hosp.	Kansas City, Mo.	D. L. Coffman	386	.....	79	29	1	7/1	1	75.00
Robert Koch Hospital [4]	Koch, Mo.	J. D. Kettelkamp	845	.....	131	50	9	7/1	1-2	141.00
Homer G. Phillips Hospital ★	St. Louis	A. Goldman	250	536	78	10	1	7/1	1	50.00
Mount St. Rose Sanatorium	St. Louis	M. Ohmoto	341	.....	51	19	1	.....	1	.....
New Jersey Sanatorium for Tuberculous Diseases	Glen Gardner, N. J.	J. A. Smith	616	1,430	12	4	7	.....	1	300.00
Berthold S. Pollak Hosp. for Chest Diseases	Jersey City, N. J.	B. S. Pollak Jr.	1,007	11,710	155	23	8	.....	1	.....
Essex Mountain Sanatorium [4]	Verona, N. J.	A. M. Hicks	655	4,965	174	27	9	.....	1	.....
Albany Hospital ★[4]	Albany, N. Y.	R. J. Erickson	255	.....	53	31	1	7/1	1	41.67
Montefiore Hospital Country Sanatorium [4]	Bedford Hills, N. Y.	N. Pinner	450[b]	.....	..	..	4	.....	1	.....
Kings County Hospital ★	Brooklyn	C. E. Hamilton	.....	6,677	184	20	3	1/1	1	120.00
Kingston Avenue Hospital	Brooklyn	F. Murray	271	.....	33	9	2	7/1	1	130.00
Edward J. Meyer Memorial Hospital ★[4]	Buffalo	J. H. Donnelly	730	1,457	217	76	1	7/1	3	100.00

Numerical and other references will be found on page 1375.

23. PULMONARY DISEASES—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Nassau County Tuberculosis Hospital	Farmingdale, N. Y.	J. C. Walsh	462	7,309	56	6	4	7/1	1-2	150.00
Herman M. Biggs Memorial Hospital [4]	Ithaca, N. Y.	N. S. Lincoln	385	6,403	25	10	5	7/1	1	200.00
Triboro Hospital [4]	Jamaica, N. Y.	R. H. Bennett and H. M. Riggins	747	10,469	37	12	14	7/1	1	50.00
Mount Morris Tuberculosis Hospital [4]	Mount Morris, N. Y.	A. M. Stokes	271	6,741	28	16	4	7/1	1	208.33
Bellevue Hosp., Div. I—Columbia Univ. [*4,19]	New York City	J. B. Amberson	3,067	11,069	389	98	14	1/1, 7/1	1	70.00
Lenox Hill Hospital [*4]	New York City	G. Thorburn	85	1,864	6	1	1	7/1	1	50.00
Metropolitan Hospital [*4]	New York City	G. G. Ornstein	465	4,817	211	18	8	Varies	1	100.00
Montefiore Hosp. for Chronic Diseases [*1]	New York City	E. H. Rubin and M. M. Steinbach	270	.....	39	17	1	1/1, 7/1	1	50.00
St. Joseph Hosp. for Chest Diseases	New York City	F. J. McCarthy	718	.....	..	..	3	.....	1	.....
Homer Folks Tuberculosis Hospital [4]	Oneonta, N. Y.	R. Horton	365	6,648	30	13	2	10/1	1	208.33
Municipal Sanatorium [4]	Otisville, N. Y.	J. S. Edlin	1,060	.....	..	..	7	1/1	1	.....
Ray Brook State Tuberculosis Hospital	Ray Brook, N. Y.	H. A. Bray	660	4,741	36	17	4	.....	1	.....
Iola-Monroe County Tuberculosis Sanat. [4]	Rochester, N. Y.	E. Bridge	651	17,335	97	31	7	7/1	1	200.00
Schenectady County Tuberculosis Hospital [4]	Schenectady, N. Y.	J. M. Blake	234	2,900	34	2	2	7/1	1	100.00
Sea View Hospital [4]	Staten Island, N. Y.	J. J. Ornstein	2,581	.....	546	36	22	1/1, 7/1	1	120.00
Trudeau Sanatorium [4]	Trudeau, N. Y.	E. N. Packard	409	.....	6	3	5	Varies	1	25.00
Grasslands Hospital [*4]	Valhalla, N. Y.	W. G. Childress	452	1,623	59	24	8	7/1	1-3	122.50
Jefferson County Sanatorium [4]	Watertown, N. Y.	S. E. Simpson	182	1,915	30	17	1	7/1	1-3	150.00
†Veterans Administration Hospital	Oteen, N. C.	P. H. Ringer	2,038	1,443	269	68	1	.....	1	275.00
†Veterans Administration Hospital	Brecksville, Ohio	K. E. Kimber	200	.....	16	4	4	.....	1	275.00
Dunham Hospital [4]	Cincinnati	H. J. Nimitz	930	2,352	189	40	6	.....	1	.....
City Hospital [*4]	Cleveland	R. C. McKay	855	.....	234	69	3	7/1	1	90.00
Franklin County Tuberculosis Hospital [4]	Columbus, Ohio	W. L. Potts	492	792	91	35	4	Varies	1	150.00
Sunny Acres, Cuyahoga County Tuberculosis Hospital [4]	Warrensville, Ohio	R. H. Browning	658	29,112	36	13	6	7/1	1+	230.00
Eagleville Sanatorium for Consumptives [4]	Eagleville, Pa.	A. J. Cohen	348	7,014	32	..	2	.....	1	.....
Germantown Dispensary and Hospital [*]	Philadelphia	F. M. McPhedran	.....	.....	..	..	1	7/1	1-2	50.00
White Haven Sanatorium [4]	White Haven, Pa.	L. J. Leavens	325[b]	.....	..	..	2	.....	1	.....
State Sanatorium [4]	Wallum Lake, R. I.	U. E. Zambarano	705	4,274	98	15	2	Varies	1	.....
Pine Breeze Sanatorium	Chattanooga, Tenn.	J. L. Hamilton	409	2,669	69	1	1	Varies	1	.....
Davidson County Tuberculosis Hospital	Nashville, Tenn.	R. R. Crowe	457	5,280	52	14	2	7/1	1-3	150.00
†Oakville Memorial Sanatorium [4]	Oakville, Tenn.	F. H. Alley	476	29,667	116	32	2	7/1	1-3	150.00
†Veterans Administration Hospital [4]	McKinney, Texas	F. Reichsman	295	.....	12	7	2	Varies	1	275.00
Woodmen of the World Mem. Hospital	San Antonio, Texas	R. G. McCorkle	187	.....	15	5	1	9/1	1	.....
King County Tuberculosis Hospital	Seattle	P. H. Narodick	332	2,782	69	21	2	7/1	1-3	320.00
Hopemont Sanitarium [4]	Hopemont, W. Va.	D. Salkin	815	2,500	38	13	4	.....	1-3	175.00
Muirdale Sanatorium [4]	Milwaukee	A. V. Cadden	907	.....	135	10	2	Varies	1-2	.....
Wisconsin State Sanatorium [4]	Statesan, Wis.	R. H. Schmidt Jr.	237	.....	15	5	2	Varies	1	200.00
†Leahi Hospital [4]	Honolulu, Hawaii	H. H. Walker	826	.....	87	40	6	Varies	1-2	200.00

Hospitals, 104; Assistant Residencies and Residencies, 360

24. RADIOLOGY

The following services are approved by the Council and the American Board of Radiology (See footnotes 1, 2 and 3 for number of years credit)

United States Army.—Residencies available to medical officers, U. S. Army.

†Army and Navy General Hospital [1] (Rad.)..Hot Spgs. Nat. Pk., Ark.
Letterman General Hospital [*2] (Rad.).....San Francisco
†Fitzsimons General Hospital [*1] (Roent.).....Denver
Walter Reed General Hospital [*2] (Rad.).....Washington, D. C.
†Oliver General Hospital [*1] (D.R.).....Augusta, Ga.
†Percy Jones General Hospital [*1] (Roent.).....Battle Creek, Mich.
†Brooke General Hospital [*1] (Roent.).....San Antonio, Texas

United States Navy.—Residencies available to medical officers, U. S. Navy.

†U. S. Naval Hospital [*1] (Roent.).....Long Beach, Calif.
†U. S. Naval Hospital [*1](Roent.).....Oakland, Calif.
†U. S. Naval Hospital [*2] (Rad.).....San Diego, Calif.
†U. S. Naval Hospital [*1] (Roent.).....Great Lakes, Ill.
†U. S. Naval Hospital [*1] (Roent.).....Bethesda, Md.
†U. S. Naval Hospital [*1] (Roent.).....Chelsea, Mass.
U. S. Naval Hospital [*2] (Roent.).....St. Albans, N. Y.
†U. S. Naval Hospital [*1] (Roent.).....Philadelphia

Name of Hospital	Location	Chief of Service	Type of Training [1,2]	Roentgenographic Examinations	X-Ray Treatments	Radium Treatments	Autopsy Percentage	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Jefferson-Hillman Hospitals [*1,4]	Birmingham, Ala.	M. Barfield-Carter	Rad.	15,593	6,413	35	30	2	7/1	1	$ 30.00
†Norwood Hospital [*1]	Birmingham, Ala.	L. E. Sorrell	Roent.	9,415	3,449	125	48	1	Varies	1	.....
†St. Monica's Hospital [*1]	Phoenix, Ariz.	J. Foster	Rad.	4,637	163	10	32	1	4/1	1-2	200.00
†San Joaquin General Hospital [*1]	French Camp, Calif.	A. M. Cove	Roent.	18,244	3,159	9	72	1	7/1	1-3	200.00
†Cedars of Lebanon Hospital [*1]	Los Angeles	E. Freedman	Rad.	11,500	4,533	96	39	2	7/1	1	100.00
Los Angeles County Hospital [*2,4]	Los Angeles	R. A. Carter	Rad.	54,755	6,480	355	33	3	.....	3	157.29
†Queen of Angels Hospital [*1]	Los Angeles	L. S. Goin	Rad.	7,704	4,223	97	29	1	7/1	3	100.00
St. Vincent's Hospital [*2]	Los Angeles	K. S. Davis	Rad.	7,917[b]	1,231[b]	..	43	1	.....	1	.....
White Memorial Hospital [*2]	Los Angeles	W. L. Stilson	Rad.	11,097	7,842	316	44	2	.....	1-3	30.00
Highland-Alameda County Hospital [*2]	Oakland, Calif.	H. H. Jensen	Rad.	11,610	1,668	23	59	1	7/1	1-3	155.00
†Permanente Foundation Hospital [*1,4]	Oakland, Calif.	O. Hatschek	Rad.	9,726	3,293	120	70	1	.....	1	.....
Collis P. and Howard Huntington Memorial Hospital [*2]	Pasadena, Calif.	J. F. Chapman and R. S. Harrison	Roent.	6,823	2,374	4	59	1	7/1	1	85.00
†Franklin Hospital [*1,4]	San Francisco	A. J. Williams	Roent.	8,373	1,758	7	33	1	.....	1	.....
Mount Zion Hospital [*1]	San Francisco	J. Levitin	Roent.	5,646	539	9	64	1	7/1	1	75.00
†St. Mary's Hospital [*]	San Francisco	C. S. Capp	Roent.	11,144	3,258	..	34	1	4/1	1	100.00
San Francisco Hospital [*2,4]	San Francisco	L. H. Garland and A. J. Williams	Rad.	58,922	2,297	31	27	4	7/1	1-3	.....
Stanford University Hospital [*3,4]	San Francisco	R. R. Newell	Rad.	15,709	8,263	147	44	4	7/1	1-2	50.00
University of California Hospital [*3,4]	San Francisco	R. S. Stone	Rad.	20,256	13,699	162	69	4	7/1	1	50.00
†Veterans Administration Hospital	San Francisco	G. T. Leclercq	D.R.	.....	.....	..	..	3	7/1	1-3	275.00
†Santa Clara County Hospital [*1]	San Jose, Calif.	T. N. Foster and J. Von Saltza	Roent.	4,404	1,199	6	31	1	.....	1	185.00
†Santa Barbara Cottage Hospital [*]	Santa Barbara, Calif.		D.R.	9,418	3,035	68	51	1	7/1	1	90.00
†St. John's Hospital [*]	Santa Monica, Calif.	M. L. Pindell	Rad.	2,736	894	11	30	1	.....	1	150.00
Veterans Administration Center [3]	W. Los Angeles, Calif.	C. G. Lyons	Rad.	40,538	11,261	87	35	6	.....	3	275.00
Colorado General Hospital [*2,4]	Denver	E. A. Schmidt	Rad.	11,684[b]	2,880[b]	..	75	2	10/1	1-2	85.00
†Presbyterian Hospital [*1]	Denver	K. D. A. Allen	Rad.	5,608	1,805	71	57	1	.....	3	.....
†St. Luke's Hospital [*1]	Denver	W. P. Stampfli	Rad.	3,705	1,072	..	38	1	.....	1	.....
†Veterans Administration Hospital [1]	Fort Logan, Colo.	C. F. Ingersoll	D.R.	.....	.....	..	..	3	10/1	1-3	275.00

Numerical and other references will be found on page 1375.

24. RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training [12]	Roentgenographic Examinations	X-Ray Treatments	Radium Treatments	Autopsy Percentage	Asst. Res. and Residencies [6]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Corwin Hospital *[2]	Pueblo, Colo.	G. A. Unfug	Roent.	6,714	1,583	10	52	1	5/1	1-3	75.00
†Bridgeport Hospital *[1]	Bridgeport, Conn.	B. M. Parmelee	Rad.	.....	.....	..	36	1	.....	1	.....
Hartford Hospital *[3,4]	Hartford, Conn.	D. J. Roberts	Rad.	14,628	8,300	..	43	2	7/1	1-2	50.00
Grace-New Haven Community Hospital											
†Grace Unit *[1]	New Haven, Conn.	R. M. Lowman	Rad.	6,226	4,146	..	29	1	7/1	3	40.00
New Haven Unit *[3,4]	New Haven, Conn.	H. Wilson	Rad.	24,724	3,369	45	51	2	7/1	1	40.00
†Hospital of St. Raphael *[1]	New Haven, Conn.	F. D. Stasio	Roent.	6,700	811	..	24	1	.....	1	.....
†Waterbury Hospital *	Waterbury, Conn.	J. L. Harvey	Rad.	5,732	1,281	54	39	1	9/1	1-3	100.00
†Delaware Hospital *[2]	Wilmington, Del.	W. W. Lattomus	D.R.	10,682	2,552	58	51	1	10/1	1	125.00
Doctors Hospital *[3]	Washington, D. C.	A. C. Christie	Rad.	1,500	844	116	65	2	7/1	3-4	125.00
†Gallinger Municipal Hospital *[1,4]	Washington, D. C.	H. R. Reed	Rad.	21,400	994	10	44	1	7/1	1-3	75.00
Garfield Memorial Hospital *[3,4]	Washington, D. C.	A. O. Hampton	Rad.	12,515	14,856	146	56	4	.....	1	.....
Georgetown University Hospital *[2]	Washington, D. C.	F. O. Coe	Rad.	6,951	4,100	84	40	2	7/1	1-2	75.00
Sibley Memorial Hospital *[3,4]	Washington, D. C.	W. M. Clopton	Rad.	7,424	1,632	32	68	2	.....	1-2	100.00
Veterans Administration Hospital [2]	Washington, D. C.	S. R. Bersack	Rad.	15,910	2,258	13	..	1	1/1	1-3	275.00
James M. Jackson Memorial Hospital *[2]	Miami, Fla.	K. A. Bibby	Rad.	34,500	3,809	26	31	1	.....	1	.....
Grady Memorial Hospital *[3,4]	Atlanta, Ga.	H. S. Weens	Rad.	9,279	4,314	..	39	3	.....	1	.....
Piedmont Hospital *[3]	Atlanta, Ga.	G. R. Hrdlicka	Rad.	2,706	883	..	45	1	.....	1	.....
†University Hospital *[3,4]	Augusta, Ga.	L. P. Holmes	Rad.	33,107	4,299	..	30	2	7/1	1-2	40.00
†Emory University Hospital *[1]	Emory University, Ga.		Rad.	6,476	5,816	109	39	1	.....	1	.....
†Alexian Brothers Hospital *[1]	Chicago	M. Indovina	Roent.	15,000	2,000	75	50	1	6/1	1-3	100.00
Augustana Hospital *[1]	Chicago	D. S. Beilin	Rad.	5,355	7,251	..	30	1	11/1	1-3	50.00
Cook County Hospital *[3,4]	Chicago	G. M. Landau	Rad.	66,545	22,141	78	21	4	.....	1-3	.....
†Edgewater Hospital *[1]	Chicago	N. S. Zeitlin	Roent.	535	104	..	40	1	7/1	1-3	None
†Illinois Masonic Hospital *[4]	Chicago	J. H. Gilmore	Rad.	7,760	102	14	31	1	Varies	1-3	.....
†Lutheran Deaconess Home and Hospital *[1]	Chicago	R. G. Willy and J. T. Murphy	Roent.	7,458	994	..	23	1	.....	1	100.00
†Mercy Hospital-Loyola University Clinics *[1]	Chicago	W. W. Furey	Rad.	8,600	8,315	251	44	2	.....	1-3	.....
Michael Reese Hospital *[3,4]	Chicago	R. A. Arens	Rad.	24,332	16,312	4,324	66	2	.....	3	.....
Mount Sinai Hospital *[2,4]	Chicago	J. Arendt	Roent.	7,687	3,333	..	40	2	7/1	1	50.00
Passavant Memorial Hospital *[3,4]	Chicago	J. T. Case	Rad.	5,422	1,054	33	69	2	.....	1	.....
Presbyterian Hospital *[3]	Chicago	F. H. Squire	Rad.	22,928	5,735	52	64	2	.....	1-3	.....
Provident Hospital *[2,4]	Chicago	W. Quinn	Rad.	4,074	1,020	19	57	1	.....	1	.....
†Ravenswood Hospital *[1]	Chicago	D. L. Jenkinson	Rad.	.....	.....	..	31	1	.....	1	.....
Research and Educational Hospitals *[3,4]	Chicago	R. A. Harvey	Rad.	10,935	10,802	..	90	4	7/1	1-3	55.00
†St. Joseph Hospital *[1,4]	Chicago	W. E. Anspach	Roent.	3,988[b]	1,219[b]	..	43	2	.....	1	.....
St. Luke's Hospital *[3,4]	Chicago	E. L. Jenkinson	Rad.	24,583	6,931	45	59	5	7/1	1-3	25.00
University of Chicago Clinics *[3]	Chicago	P. C. Hodges	Rad.	18,752	5,630	114	83	3	.....	1-3	25.00
Wesley Memorial Hospital *[2,4]	Chicago	E. E. Barth	Rad.	.....	1,537	..	62	3	1/1, 7/1	1-3	25.00
†Woodlawn Hospital *[4]	Chicago	H. Olin	Roent.	4,671	1,072	18	58	1	1/1	1-3	.....
Evanston Hospital *[3]	Evanston, Ill.	E. R. Crowder	Rad.	16,456	1,078	..	86	3	.....	3	50.00
†St. Francis Hospital *[1]	Evanston, Ill.	A. C. Ledoux	Rad.	12,483	1,048	28	35	1	.....	1	75.00
†Little Company of Mary Hospital *[1]	Evergreen Park, Ill.	W. W. Furey	D.R.	9,295	1,745	75	25	1	3/1	1	100.00
Veterans Administration Hospital [3]	Hines, Ill.	C. W. McClanahan	Rad.	79,194	38,159	88	..	5	.....	1-3	275.00
†Ryburn Memorial Hospital [1,10]	Ottawa, Ill.	R. T. Pettit	Ther.Rad.	1,820	3,824	125	..	1	5/1	1	150.00
†Methodist Hospital of Central Illinois *	Peoria, Ill.	F. H. Decker	Rad.	6,760	2,222	83	26	1	7/1	1	100.00
St. Francis Hospital *[2,4]	Peoria, Ill.	P. R. Dirkse	Rad.	10,779	3,155	2	35	1	8/1	1-2	150.00
†Clinic Hospital [1]	Bluffton, Ind.	L. Long	Rad.	23,940	1,652	31	54	1	7/1	1-3	100.00
†St. Mary's Mercy Hospital *	Gary, Ind.	C. P. Galanti	Roent.	6,147	3,024	..	25	1	7/1	2-3	50.00
St. Margaret Hospital *[2]	Hammond, Ind.	C. W. Rauschenbach	Roent.	4,370	956	15	24	2	.....	1-3	200.00
Indianapolis City Hospital *[3]	Indianapolis	L. Smith	Rad.	9,803	3,220	60	41	2	.....	1-3	.....
Indiana University Medical Center *[3,4]	Indianapolis	J. A. Campbell	Rad.	16,112	9,208	275	58	3	.....	1-3	.....
Methodist Hospital *[3,4]	Indianapolis	H. C. Oehsner	Rad.	18,936	4,794	..	33	2	1/1	1-2	200.00
†Veterans Administration Hospital	Indianapolis	R. T. Levin	D.R.	7,187	.....	..	30	3	Varies	1-5	275.00
†St. Elizabeth's Hospital *	LaFayette, Ind.	D. C. McClelland	Rad.	7,058	2,513	47	22	1	Varies	1	.....
Iowa Methodist Hospital *[3]	Des Moines, Iowa	T. A. Bureham	Rad.	11,673	2,371	69	74	2	Varies	1-3	125.00
University Hospitals *[3,4]	Iowa City	H. D. Kerr	Rad.	30,679	16,089	21	56	9	.....	1	40.00
University of Kansas Hospitals *[3,4]	Kansas City, Kan.	G. M. Tice	Rad.	33,670	9,488	188	59	2	.....	1	.....
†Veterans Administration Hospital [1]	Wadsworth, Kan.	C. F. Bloom	D.R.	13,389	.....	..	45	6	Varies	3	275.00
†Louisville General Hospital *	Louisville, Ky.	S. E. Johnson	Rad.	16,953	1,676	29	38	2	7/1	1-3	83.33
†St. Joseph Infirmary *[1]	Louisville, Ky.	S. E. Johnson	Rad.	8,552	8,361	132	34	2	7/1	1-3	66.67
†Veterans Administration Hospital [1]	Louisville, Ky.	E. L. Shiflett	D.R.	.....	.....	..	..	3	7/1	1-3	275.00
Charity Hospital of Louisiana *[3,4]	New Orleans	L. J. Menville	Rad.	63,587	34,933	449	49	8	7/1	1-3	25.00
Southern Baptist Hospital *[3]	New Orleans	L. J. Bristow	Rad.	10,438	4,707	..	25	2	.....	1-3	150.00
Touro Infirmary *[3]	New Orleans	M. D. Teitelbaum	Roent.	12,264	4,748	..	55	1	7/1	1	17.50
Shreveport Charity Hospital *[3,4]	Shreveport, La.	G. M. Riley	Rad.	7,259	8,257	97	47	2	.....	1-3	.....
†Baltimore City Hospital *[1,4]	Baltimore	S. H. Maeht	Rad.	10,500	500	..	55	3	7/1	1	35.00
Johns Hopkins Hospital *[3,4]	Baltimore	R. J. Morgan	Rad.	156,051	8,846	199	65	2	7/1	1-3	.....
†Sinai Hospital *	Baltimore	M. Ostro	Roent.	9,086	890	..	60	2	7/1	..	35.00
†Union Memorial Hospital *	Baltimore	W. B. Firor	Rad.	7,121	.....	..	17	1	7/1	1	None
University Hospital *[2,4]	Baltimore	W. L. Kilby	Rad.	26,383	3,875	205	58	3	7/1	1-2	75.00
†U. S. Marine Hospital *	Baltimore	S. R. Baker	Ther.Rad.	18,146	7,150	222	67	1	7/1	1-3	184.16
†Veterans Administration Hospital [1]	Fort Howard, Md.	H. A. Miller	D.R.	6,815	.....	..	..	2	7/1	1-3	275.00
Beth Israel Hospital *[2]	Boston	S. A. Robins	Rad.	8,039	2,165	12	58	3	4/1	2	41.66
Boston City Hospital *[3,4]	Boston	M. Ritvo	Rad.	53,934	3,166	70	19	4	.....	1	.....
Children's Hospital *[1,4]	Boston	E. B. D. Neuhauser	Roent.	17,454	1,524	..	76	1	.....	1	.....
Joseph H. Pratt Diagnostic Hospital [1,4]	Boston	A. Ettinger	Roent.	12,700	100	..	62	1	.....	1	.....
Lahey Clinic [3]	Boston	H. F. Hare	Rad.	30,000[b]	7,200[b]	..	..	3	Varies	1-3	125.00
Massachusetts General Hospital *[3]	Boston	L. L. Robbins	Rad.	39,119	13,311	172	53	3	.....	1-3	.....
Massachusetts Memorial Hospital *[3,4]	Boston	G. Levene	Rad.	1,124	2,344	46	70	2	.....	3	50.00
New England Deaconess Hospital [2]	Boston	J. H. Marks	Rad.	8,629	4,912	..	63	1	.....	1	75.00
Peter Bent Brigham Hospital *[3]	Boston	M. C. Sosman	Rad.	31,417	2,701	230	74	3	.....	1-3	.....
†St. Elizabeth Hospital *[4]	Boston	A. M. Moloney	Roent.	3,822	.....	..	21	1	6/1	1	75.00
†Veterans Administration Hospital (West Roxbury)	Boston	E. G. Wissing	D.R.	45,000	.....	..	..	1	10/1	1	275.00
†Mount Auburn Hospital *[4]	Cambridge, Mass.	J. W. Meachen	D.R.	10,328	15	..	45	1	7/1	1	50.00
Newton-Wellesley Hospital *[3,4]	Newton, Mass.	C. Liebman	Roent.	8,176	1,834	..	34	1	11/19	2	100.00
†Quincy City Hospital *[1]	Quincy, Mass.	W. S. Altman	Roent.	6,496	708	9	44	1	7/1	1+	75.00
Salem Hospital *[3]	Salem, Mass.	S. A. Wilson	Rad.	7,803	1,338	10	32	1	7/1	1	50.00
†Westfield State Sanatorium [1]	Westfield, Mass.	J. W. Turner	Rad.	7,066	6,639	83	36	1	7/1	1	200.00
†Memorial Hospital *[4]	Worcester, Mass.	W. J. Elliott	Rad.	10,774	3,344	65	33	1	7/1	1	100.00
St. Joseph's Mercy Hospital *[2]	Ann Arbor, Mich.	S. W. Donaldson	Rad.	11,897	2,586	44	46	2	.....	2	125.00
University Hospital *[3,4]	Ann Arbor, Mich.	F. J. Hodges	Rad.	41,134	14,420	276	61	6	.....	1-3	.....
†Veterans Administration Hospital [1]	Dearborn, Mich.	P. H. Schraer	D.R.	7,865	.....	..	..	4	1/1, 7/1	1-3	275.00
City of Detroit Receiving Hospital *[2,4]	Detroit	I. D. Harris	Roent.	26,879	.....	..	25	2	7/15	1-3	None

Numerical and other references will be found on page 1375.

24. RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training [12]	Roentgenographic Examinations	X-Ray Treatments	Radium Treatments	Autopsy Percentage	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Grace Hospital ★[3]	Detroit	H. A. Jarre	Rad.	12,476	5,802	18	35	2	7/1	1-3	75.00
Harper Hospital ★[3,4]	Detroit	L. Reynolds	Rad.	.....	.....	..	33	3	.....	1	.....
Henry Ford Hospital ★[3,4]	Detroit	H. P. Doub	Rad.	41,270	4,705	208	57	4	7/1	1-3	200.00
†Herman Kiefer Hospital [1,4]	Detroit	C. C. Birkelo	Roent.	36,333	213	..	47	1	7/1	1	265.00
Providence Hospital ★[3]	Detroit	W. A. Irwin	Rad.	15,350	7,290	228	73	1	.....	1-3	.....
St. Mary's Hospital ★[3]	Detroit	J. E. Lofstrom	Rad.	8,568	3,610	56	59	3	.....	3	140.00
†Wayne County General Hospital and Inf. ★[1]	Eloise, Mich.	N. R. Shippey	Rad.	28,727	4,881	26	28	2	7/1	1-3	197.50
Hurley Hospital ★[3]	Flint, Mich.	M. W. Clift	Rad.	20,695	4,240	76	53	1	7/1	1-3	.....
†Butterworth Hospital ★[3]	Grand Rapids, Mich.	R. J. McCandliss	Rad.	8,811	4,836	62	..	1	7/1	1-3	100.00
†Hackley Hospital ★[1]	Muskegon, Mich.	L. E. Holly	Roent.	6,410	4,306	17	33	1	7/1	1-3	110.00
St. Mary's Hospital ★[1]	Duluth, Minn.	J. R. McNutt	Rad.	5,768	3,108	30	79	1	7/1	1	75.00
University Hospitals ★[3,4]	Minneapolis	L. G. Rigler	Rad.	28,184	11,684	602	75	11	7/1	1-3	100.00
Mayo Foundation [3]	Rochester, Minn.	B. R. Kirklin	Rad.	(See page 1375)				15	.....	1-3	.....
†Ellis Fischel State Cancer Hospital [1,4]	Columbia, Mo.	D. V. LeMone	Rad.	2,574	14,067	6	76	1	7/1	1-2	50.00
†Kansas City General Hospital No. 1 ★[1]	Kansas City, Mo.	L. A. Scarpellino and D. S. Dann	Rad.	12,629	1,116	96	60	3	7/1	1-3	50.00
†Menorah Hospital ★	Kansas City, Mo.	D. S. Dann	Rad.	3,975	2,560	46	27	1	7/1	1-3	150.00
Research Hospital ★[3,4]	Kansas City, Mo.	I. H. Lockwood	Rad.	34,309	2,712	411	56	3	.....	1	.....
St. Joseph Hospital ★[3]	Kansas City, Mo.	C. E. Virden	Rad.	8,624	4,693	178	46	1	.....	1	.....
†St. Luke's Hospital ★[1]	Kansas City, Mo.	L. A. Scarpellino	Rad.	7,778	239	32	70	1	.....	1	75.00
†St. Mary's Hospital ★[1]	Kansas City, Mo.	E. R. Deweese	Rad.	4,691	431	33	68	2	.....	1	.....
Barnes Hospital ★[3]	St. Louis	S. Moore	Rad.	22,882	1,075	106	70	5	7/1	1-3	25.00
Homer G. Phillips Hospital ★[3]	St. Louis	E. W. Spinzig	Rad.	13,624	1,930	..	23	1	7/1	1	50.00
†Jewish Hospital ★	St. Louis	P. S. Schnoebelen	Rad.	8,277	4,089	197	33	2	7/1	1-3	.....
St. Louis City Hospital ★[3,4]	St. Louis	D. Weir	Rad.	23,696	2,669	132	50	3	7/1	1-3	86.00
St. Luke's Hospital ★[3]	St. Louis	O. C. Zink	Rad.	5,816	1,308	137	38	1	7/1	1	75.00
St. Mary's Group of Hospitals ★[3]	St. Louis	L. Sante	Rad.	22,054		61	54	2	Varies	3	35.00
Creighton Memorial St. Joseph's Hosp. ★[3,4]	Omaha	J. E. Kelly	Rad.	12,213	835	108	42	1	7/1	1-2	100.00
†Nebraska Methodist Hospital ★[1]	Omaha	H. B. Hunt	Rad.	6,321	3,248	72	59	1	7/1	1-3	100.00
University of Nebraska Hospital ★[3]	Omaha	H. B. Hunt	Rad.	3,901	2,224	123	98	1	7/1	1-3	50.00
†St. Mary's Hospital	Reno, Nev.	M. J. Thorpe	Roent.	.....	.....	..	..	1	Varies	2	.....
Mary Hitchcock Memorial Hospital ★[2]	Hanover, N. H.	L. K. Sycamore	Rad.	8,178	2,733	43	85	1	.....	1	.....
‡Atlantic City Hospital ★[1]	Atlantic City, N. J.	C. B. Kaighn	Rad.	6,035	1,227	37	34	1	7/1	1	.....
†Jersey City Hospital ★	Jersey City, N. J.	H. Perlberg	Rad.	20,000	1,500	150	18	2	7/1	1-2	35.00
Newark Beth Israel Hospital ★[1]	Newark, N. J.	N. J. Furst	Rad.	6,335	3,732	188	32	1	7/1	1	100.00
†Newark City Hospital ★	Newark, N. J.	P. J. Santora	Rad.	11,183	2,469	36	24	1	7/1	2	30.00
†Newcomb Hospital [1]	Vineland, N. J.	J. Gershon-Cohen	D.R.	6,752	515	..	..	1	.....	1	.....
†Albany Hospital ★[1,4]	Albany, N. Y.	W. P. Howard	Roent.	19,188	4,281	313	60	2	7/1	1	41.67
†Beth-El Hospital ★[4]	Brooklyn	M. Dannenberg	Roent.	5,053	694	42	32	2	7/1	1-3	100.00
†Beth Moses Hospital ★[1,4]	Brooklyn	L. A. Held	Roent.	2,686	493	23	23	1	.....	1	.....
†Brooklyn Cancer Institute	Brooklyn	S. W. Westing	Rad.	4,459	8,671	404	23	4	Varies	1-2	100.00
Brooklyn Hospital ★[2,4]	Brooklyn	J. Pepe	Rad.	7,800	2,061	70	33	2	7/1	1-2	25.00
Jewish Hospital ★[3,4]	Brooklyn	M. G. Wasch	Rad.	14,569	3,210	7	41	4	4/1	1+	30.00
Kings County Hosp. ★ (D.R.,[2] Ther.Rad.[1])	Brooklyn	B. Ehrenpreis	D.R.Ther.Rad.	63,514	11,809	107	17	4	7/1	1-2	70.00
Long Island College Hospital ★[3,4]	Brooklyn	A. L. L. Bell	Rad.	15,348	3,132	94	36	3	7/1	3	25.00
Methodist Hospital ★[2]	Brooklyn	G. W. Cramp	Rad.	8,197	1,598	55	35	1	.....	1	.....
Edward J. Meyer Memorial Hospital ★[3,4]	Buffalo	F. G. Eschner	Rad.	38,541	2,324	28	38	4	7/1	3	100.00
Meadowbrook Hospital ★[2]	Hempstead, N. Y.	G. L. Carr	Rad.	5,053	2,705	22	44	1	.....	1	.....
Queens General Hospital ★[3,4]	Jamaica, N. Y.	I. S. Startz	Rad.	9,036	7,015	61	45	3	.....	1-2	70.00
†Charles S. Wilson Memorial Hospital ★[1]	Johnson City, N. Y.	D. B. Jay	Roent.	12,500	2,044	11	29	1	.....	1	.....
†Mount Vernon Hospital ★[1]	Mount Vernon, N. Y.	W. H. Shehadi	Rad.	6,290	1,371	16	29	1	7/1	1-3	.....
New Rochelle Hospital ★[2]	New Rochelle, N. Y.	J. F. Miller	Roent.	9,092	1,734	13	25	1	.....	1	.....
Bellevue Hospital, Div. III—N. Y. Univ. ★[1,4]	New York City	I. I. Kaplan	Ther.Rad.	.....	.....	..	32	5	Varies	1	45.00
Bellevue Hospital, Div. IV—Open Div. ★[1,4]	New York City	L. J. Friedman	D.R.	176,888	.....	..	32	5	1/1, 7/1	1½	45.00
Beth Israel Hospital ★[3,4]	New York City	A. J. Bendick	Rad.	5,961	2,013	14	32	2	7/1	1	50.00
Bronx Hospital ★[2,4]	New York City	W. Snow	Rad.	4,478	1,521	..	24	2	7/1	1-3	75.00
Flower and Fifth Avenue Hospitals ★[3,4]	New York City	F. Dorrelli	Rad.	10,057	2,343	46	27	2	7/1	1	.....
French Hospital ★[2]	New York City	E. Claiborne	Rad.	11,330	1,986	..	26	1	.....	1-2	.....
Goldwater Memorial Hospital ★[2,4]	New York City	H. K. Taylor	Roent.	9,445	250	..	38	1	7/1	1	50.00
Hospital for Joint Diseases ★[3,4]	New York City	M. M. Pomeranz	Rad.	17,830	1,639	30	39	1	7/1	1-3	40.00
Lenox Hill Hospital ★[3,4]	New York City	F. H. Ghiselin	Roent.	17,237	3,283	20	44	2	7/1	1-2	50.00
Lincoln Hospital ★[1,4]	New York City	E. Kraft	Rad.	20,416	329	..	22	1	.....	1	.....
Memorial Hospital ★[1,4]	New York City	R. Herendeen	D.R.	14,751	58,599	1,740	49	2	.....	1	.....
Metropolitan Hospital ★[2,4]	New York City	T. B. Weinberg	Rad.	18,483	.....	..	22	2	1/1, 7/1	1	100.00
Montefiore Hosp. for Chronic Diseases ★[2,4]	New York City	S. Fineman	Rad.	.....	.....	..	51	4	1/1, 7/1	1	50.00
Morrisania City Hospital ★[2,4]	New York City	S. Weitzner	Rad.	1,319	3,166	38	19	1	11/15	1-2	.....
Mount Sinai Hospital ★[3,4]	New York City	M. L. Sussman	Rad.	28,164	8,024	50	63	7	1/1, 7/1	2	50.00
New York City Hospital ★[1,4]	New York City	C. Gottlieb	D.R.	9,708	.....	..	39	4	7/1	1	120.00
New York Hospital ★[3,4]	New York City	H. Temple	Rad.	48,695	7,861	..	60	2	7/1	1-4	25.00
New York Polyclinic Medical School and Hospital ★[2]	New York City	E. E. Smith	Rad.	6,777	2,099	26	26	2	7/1	2	25.00
New York Post-Graduate Medical School and Hospital ★[2]	New York City	W. M. Meyer	Rad.	9,276	5,496	656	38	3	.....	1-2	30.00
Presbyterian Hospital ★[3,4]	New York City	R. Golden	Rad.	72,344	22,055	513	58	12	.....	3	41.66
Roosevelt Hospital ★[3,4]	New York City	W. H. Boone	Rad.	17,251	3,560	..	28	3	7/1	1-3	25.00
St. Luke's Hospital ★[3]	New York City	E. J. Ryan	Rad.	20,686	5,240	146	35	2	.....	1-3	50.00
†St. Vincent's Hospital ★[4]	New York City	W. W. Maver and C. Oderr	Rad.	50,121	3,559	55	42	2	1/1	1-3	50.00
Sydenham Hospital ★[1]	New York City	A. S. Unger	Roent.	4,311	337	..	26	1	7/1	1-3	100.00
†Veterans Administration Hospital	New York City	A. Sheinmel	Roent.	47,877	14,228	..	30	4	7/1	1-3	303.00
Genesee Hospital ★[1]	Rochester, N. Y.	S. Larson	Roent.	8,431	971	16	54	1	.....	1	.....
Rochester General Hospital ★[3,4]	Rochester, N. Y.	L. R. Lingeman	Rad.	14,637	3,193	27	72	2	7/1	1-3	60.00
†St. Mary's Hospital ★	Rochester, N. Y.	H. H. Forsyth Jr. and A. V. Winchell	Rad.	4,877	171	2	42	1	.....	1-3	85.00
Strong Memorial-Rochester Municipal Hospitals ★[3,4]	Rochester, N. Y.	G. H. Ramsey	Rad.	27,740	6,467	234	72	8	.....	1-4	83.33
Ellis Hospital ★[1,4]	Schenectady, N. Y.	K. L. Mitton	Roent.	9,343	2,047	35	29	1	7/1	1-3	100.00
†U. S. Marine Hospital ★[1]	Stapleton, S. I., N. Y.	W. M. Sennott	Roent.	45,703	2,371	..	65	2	.....	1-2	.....
Sea View Hospital [1,4]	Staten Island, N. Y.	A. V. Shapiro	D.R.	13,887	.....	..	9	2	1/1, 7/1	1	120.00
†Crouse-Irving Hospital ★[1]	Syracuse, N. Y.	C. F. Potter	Roent.	4,333	433	..	25	1	1/1	1-3	50.00
Grasslands Hospital ★[3,4]	Valhalla, N. Y.	A. G. Debbie	Rad.	11,991	5,527	4	51	2	7/1	1-3	75.00
Charlotte Memorial Hospital ★[1,4]	Charlotte, N. C.	A. Tuggle	Rad.	9,707	3,176	56	48	1	.....	1	75.00
Duke Hospital ★[3,4]	Durham, N. C.	R. G. Reeves	Rad.	39,928	10,859	337	63	3	7/1	1	83.33
Watts Hospital ★[3]	Durham, N. C.	W. W. Vaughan	Rad.	25,493	3,910	146	36	1	7/1	1-2	75.00
†City Hospital ★[1]	Winston-Salem, N. C.	J. Selman	Roent.	4,880	1,269	8	18	1	7/1	1-3	50.00
North Carolina Baptist Hospital ★[3,4]	Winston-Salem, N. C.	J. P. Rousseau	Rad.	12,498	8,005	77	59	3	.....	1-3	.....

Numerical and other references will be found on page 1375.

24. RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training [12]	Roentgenographic Examinations	X-Ray Treatments	Radium Treatments	Autopsy Percentage	Asst. Res. and Residencies [9]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
†Bismarck Evangelical Hospital	Bismarck, N. D.	H. M. Berg	Rad.	15,930	2,904	31	31	3	Varies	1-3	100.00
City Hospital *[3]	Akron, Ohio	F. T. Moore	Rad.	17,601	8,694	75	35	2	.....	1	100.00
†Peoples Hospital *[1]	Akron, Ohio	E. L. Voke	Rad.	6,611	5,599	62	35	1	7/1	1-3	100.00
†Mercy Hospital *	Canton, Ohio	G. D. Popoff	Rad.	12,012	3,350	59	16	1	.....	1-3	100.00
Cincinnati General Hospital *[3]	Cincinnati	H. G. Reineke	Rad.	34,223	6,881	80	36	7	.....	1	.....
Jewish Hospital *[3]	Cincinnati	S. Brown	Rad.	7,269	802	54	38	2	7/1	1-3	75.00
City Hospital *[3,4]	Cleveland	H. Hauser	Rad.	22,799	7,706	..	36	4	.....	1	.....
Cleveland Clinic Foundation Hospital [3,4]	Cleveland	C. R. Hughes	Rad.	41,000	7,673	312	35	6	7/1	1-3	100.00
†Lutheran Hospital *[1,4]	Cleveland	J. A. Groh	Rad.	7,299	1,649	..	45	1	7/1	1-3	.....
†Mount Sinai Hospital *[1]	Cleveland	H. A. Mahrer	Rad.	8,321	2,341	87	36	1	7/1	1	100.00
†St. Alexis Hospital *	Cleveland	E. P. McNamee	Rad.	9,009	8	14	31	1	7/1	1	75.00
St. Luke's Hospital *[3]	Cleveland	D. D. Brannan	Rad.	16,057	3,269	61	47	3	6/25	3	60.00
St. Vincent Charity Hospital *[3]	Cleveland	J. R. Andrews	Rad.	9,627	587	30	32	2	.....	1+	75.00
University Hospitals *[3,4]	Cleveland	H. L. Friedell	Rad.	25,959	5,228	405	52	2	7/1	1	25.00
†Veterans Administration Hospital [1]	Cleveland	M. D. Sachs	D.R.	8,000	600	..	60	3	1/1, 7/1	1-3	275.00
Starling-Loving University Hospital *[3,4]	Columbus, Ohio	H. G. Means	Rad.	13,671	2,872	37	66	3	7/1	1-3	50.00
†Miami Valley Hospital *[1]	Dayton, Ohio	G. A. Nicoll	Rad.	8,042	1,019	31	38	1	10/1	1-3	75.00
†St. Vincent's Hospital *[1,4]	Toledo, Ohio	C. E. Hufford	Rad.	14,055	.....	69	24	1	.....	1	.....
†Youngstown Hospital *[1]	Youngstown, Ohio	J. Heberding and E. C. Baker	Rad.	18,091	10,980	24	29	1	7/1	1	100.00
University Hospitals *[1]	Oklahoma City	J. E. Heatley	Rad.	11,999	10,102	..	33	1	7/1	1	35.00
Good Samaritan Hospital *[3]	Portland, Ore.	G. B. Isenhart	Rad.	7,760	1,561	55	53	1	7/1	1	75.00
†Providence Hospital *[1]	Portland, Ore.	S. E. Rees	Roent.	6,952	1,330	..	36	2	7/1	1-5	100.00
St. Vincent's Hospital *[3]	Portland, Ore.	S. E. Rees	Rad.	.....	.....	..	43	1	.....	1	.....
University of Oregon Medical School Hospitals and Clinics *[3,4]	Portland, Ore.	W. Y. Burton	Rad.	16,041	4,154	20	51	3	7/1	3	75.00
Abington Memorial Hospital *[3]	Abington, Pa.	J. D. Zulick	Rad.	13,043	2,601	78	47	1	7/1	3	50.00
†Veterans Administration Hospital	Aspinwall, Pa.	E. J. Euphrat	D.R.	15,230	.....	..	31	3	Varies	3	.....
Bryn Mawr Hospital *[3]	Bryn Mawr, Pa.	R. S. Bromer	Rad.	12,457	3,929	141	45	1	8/1	1-2	80.00
Geo. F. Geisinger Memorial Hospital *[3]	Danville, Pa.	C. L. Hinkel	Rad.	8,197	2,004	51	51	1	7/1	1	75.00
†Conemaugh Valley Memorial Hospital *	Johnstown, Pa.	J. B. Hall	Roent.	9,870	864	61	20	1	9/1	1	150.00
†American Oncologic Hospital [1,4]	Philadelphia	W. S. Newcomet	Ther.Rad.	961	7,006	238	71	1	.....	1	.....
Episcopal Hospital *[2,4]	Philadelphia	D. A. Sampson	Rad.	10,772	2,587	19	45	1	.....	1	50.00
†Frankford Hospital *[2]	Philadelphia	F. F. Borzell	Rad.	12,937	.....	..	15	1	7/1	1-2	None
†Germantown Dispensary and Hospital *[1]	Philadelphia	T. P. Loughery	Rad.	13,759	1,170	50	60	1	7/1	1-2	50.00
Graduate Hospital of the Univ. of Penna. *[3]	Philadelphia	A. Kinkelstein	Rad.	11,871	3,951	45	76	2	7/1	1-2	25.00
Hahnemann Hospital *[2,4]	Philadelphia	J. W. Frank	Rad.	11,735[b]	3,341[b]	358[b]	46	2	.....	1	.....
Hospital of the University of Penna. *[3,4]	Philadelphia	E. P. Pendergrass	Rad.	88,085	20,541	129	75	12	7/15	3-5	.....
Jeanes Hospital [2,4]	Philadelphia	E. Lame	Ther.Rad.	1,530	2,258	..	41	1	.....	1	.....
Jefferson Medical College Hospital *[3]	Philadelphia	P. C. Swenson	Rad.	30,971	.....	1,202	55	8	.....	1-3	.....
Jewish Hospital *[3,4]	Philadelphia	L. Solis-Cohen	Rad.	14,302	4,244	251	56	1	7/1	1-2	75.00
Lankenau Hospital *[2]	Philadelphia	J. T. Farrell Jr.	Rad.	10,920	1,901	75	59	1	7/1	1-3	100.00
†Nazareth Hospital *[1]	Philadelphia	J. S. Fetter	Roent.	5,850	2,818	13	21	1	7/1	1-2	100.00
Mount Sinai Hospital *[3,4]	Philadelphia	L. Edelken and G. Rosenbaum	Rad.	6,756	699	292	61	1	6/1	1-2	50.00
Pennsylvania Hospital *[3]	Philadelphia	P. A. Bishop	Rad.	13,193	1,541	161	44	2	10/16, 11/1	1-3	20.00
Philadelphia General Hospital *[2,4]	Philadelphia	B. P. Widmann	Rad.	20,262	11,827	129	70	1	.....	1-3	70.00
Presbyterian Hospital *[2,4]	Philadelphia	J. H. Vastine	Rad.	8,292	6,284	69	59	1	.....	1-3	50.00
Temple University Hospital *[3,4]	Philadelphia	W. E. Chamberlain	Rad.	23,609	4,839	25	50	3	7/1	3	50.00
Elizabeth Steel Magee Hospital [3,4]	Pittsburgh	S. G. Henderson	Rad.	4,966	2,811	102	25	2	7/1	3	41.67
Mercy Hospital *[1,4]	Pittsburgh	J. A. L. McCullough	Rad.	19,094	3,392	240	29	1	9/1	1-3	.....
Montefiore Hospital *[3]	Pittsburgh	M. F. Goldsmith	Rad.	7,655	2,406	..	37	1	7/1	1	50.00
†St. Francis Hospital *[1]	Pittsburgh	L. H. Osmond	Rad.	27,630	3,151	37	25	1	.....	3	100.00
Western Pennsylvania Hospital *[3]	Pittsburgh	R. G. Alley and H. W. Jacox	Rad.	10,279	1,384	139	20	1	.....	1	100.00
†Reading Hospital *[1,4]	Reading, Pa.	G. W. Chamberlin	Rad.	7,767	3,306	14	60	2	.....	1	50.00
Robert Packer Hospital *[3]	Sayre, Pa.	S. P. Perry	Rad.	10,649	3,188	57	47	1	7/1	1-3	150.00
†Chester County Hospital	West Chester, Pa.	H. Y. Pennell	Roent.	10,043	1,840	53	18	1	.....	1	.....
†Columbia Hospital *[1]	Wilkinsburg, Pa.	W. J. McGregor	Roent.	6,555	2,255	..	24	1	.....	1-3	.....
†Rhode Island Hospital *[1]	Providence, R. I.	L. A. Martineau	Rad.	18,035	3,637	126	75	1	7/1	1-3	50.00
Roper Hospital *[3]	Charleston, S. C.	H. Rudisill Jr.	Rad.	10,068	2,262	73	42	2	7/1	1-4	25.00
Baptist Memorial Hospital *[3]	Memphis, Tenn.	J. E. Whiteleather	Rad.	9,774	2,864	..	19	3	7/1	1	.....
John Gaston Hospital *[3]	Memphis, Tenn.	J. M. Dougal	Rad.	12,629	1,849	44	56	3	7/1	1	32.50
Methodist Hospital *[3]	Memphis, Tenn.	J. C. King	Rad.	10,737	2,011	30	31	1	.....	1	.....
†Veterans Administration Hospital [1]	Memphis, Tenn.	W. H. Mendel	D.R.	6,060	80	..	..	6	Varies	1-4	275.00
†Geo. W. Hubbard Hospital of Meharry Medical College *[1]	Nashville, Tenn.	L. D. Scott	Rad.	2,611	2,700	35	24	1	7/1	1	75.00
Vanderbilt University Hospital *[3,4]	Nashville, Tenn.	C. C. McClure	Rad.	14,375	2,575	..	60	1	7/1	1	.....
†Veterans Administration Hospital [1]	Nashville, Tenn.	K. R. Delbert	D.R.	6,675	214	..	..	2	7/1	1-3	275.00
Baylor University Hospital *[3,4]	Dallas, Texas	F. M. Windrow	Rad.	329	2,249	22	30	1	7/1	1-3	50.00
†Methodist Hospital *[1]	Dallas, Texas	M. L. Mazer	D.R.	6,362	.....	19	..	1	7/1	1-3	None
Parkland Hospital *[3,4]	Dallas, Texas	J. E. Miller	Rad.	17,907	2,788	20	41	2	.....	1-3	.....
†Veterans Administration Hospital	Dallas, Texas	C. L. Martin	Rad.	10,735	.....	..	..	2	7/15	1-3	275.00
John Sealy Hospital *[3,4]	Galveston, Texas	M. Schneider	Rad.	20,564	2,039	..	62	3	.....	1-3	50.00
†Methodist Hospital *[1,4]	Houston, Texas	C. H. Burge	Roent.	5,806	2,039	30	35	1	1/1	1-3	75.00
†St. Joseph's Infirmary [1]	Houston, Texas	P. E. Wigby	Rad.	8,572	296	45	47	1	.....	1	.....
†Santa Rosa Hospital *[1]	San Antonio, Texas	M. Davis	D.R.	10,919[b]	1,172[b]	33[b]	22	1	.....	1	.....
Scott and White Hospital *[3]	Temple, Texas		Rad.	43,209	5,803	276	39	2	.....	1	150.00
†Veterans Administration Hospital	Temple, Texas	I. J. Zimmerman	D.R.	.....	.....	..	..	1	7/1	1-3	275.00
†Salt Lake County General Hospital *[1,4]	Salt Lake City	H. H. Lerner	D.R.	4,861	631	...	65	2	7/1	1	25.00
†Veterans Administration Hospital [1]	Salt Lake City	H. H. Lerner	D.R.	18,452	58	..	..	2	8/1	1-3	275.00
Mary Fletcher Hospital *[1,4]	Burlington, Vt.	A. B. Soule Jr. and O. S. Peterson Jr.	Rad.	7,371	3,740	179	59	2	7/1	1	.....
University of Virginia Hospital *[3,4]	Charlottesville, Va.	V. W. Archer	Rad.	17,885	6,948	..	49	9	.....	1-3	.....
†De Paul Hospital *[4]	Norfolk, Va.	W. H. Whitmore	Roent.	5,401	1,028	60	70	1	7/1	1-2	150.00
Medical College of Virginia, Hosp. Div. *[3,4]	Richmond, Va.	F. B. Mandeville	Rad.	17,089	2,960	89	42	1	7/1	1	46.50
†Swedish Hospital (Tumor Clinic) *[1]	Seattle, Wash.	S. T. Cantril	Ther.Rad.	5,791	6,013	144	43	2	7/1	1-3	100.00
Virginia Mason Hospital *[3]	Seattle, Wash.	T. B. Carlile	Rad.	18,182	3,838	77	70	1	.....	1	75.00
†Sacred Heart Hospital *	Spokane, Wash.	G. Bracher	Rad.	5,125	1,770	40	16	1	Varies	1-3	125.00
State of Wisconsin General Hospital *[3,4]	Madison, Wis.	E. A. Pohle	Rad.	31,504	8,249	193	64	5	7/1	3	25.00
Columbia Hospital *[3]	Milwaukee	S. A. Morton	Rad.	22,473	3,597	..	49	1	10/1	3	50.00
†Milwaukee County Hospital *[1]	Milwaukee	J. L. Marks	D.R.	10,050	845	16	33	1	7/1	1-3	75.00
†Milwaukee Hospital *[1]	Milwaukee		Rad.	13,619	.....	726	42	1	.....	3	70.00
†Queen's Hospital *[1]	Honolulu, Hawaii	L. L. Buzaid	Rad.	18,150	1,480	60	61	1	Varies	1-2	150.00

Hospitals, 296; Assistant Residencies and Residencies, 639

Numerical and other references will be found on page 1375.

25. SURGERY

United States Army.—Residencies available to medical officers, U. S. Army.

Letterman General Hospital *.....San Francisco
Fitzsimons General Hospital *.....Denver
Walter Reed General Hospital *.....Washington, D. C.
Wm. Beaumont General Hospital *.....El Paso, Texas
Brooke General Hospital *.....San Antonio, Texas
Madigan General Hospital *.....Fort Lewis, Wash.

United States Navy.—Residencies available to medical officers, U. S. Navy.

U. S. Naval Hospital *...Long Beach, Calif.
U. S. Naval Hospital *...Oakland, Calif.
U. S. Naval Hospital *...San Diego, Calif.
U. S. Naval Hospital *...Jacksonville, Fla.
U. S. Naval Hospital *...Pensacola, Fla.
U. S. Naval Hospital *....Great Lakes, Ill.
U. S. Naval Hospital.....Annapolis, Md.
U. S. Naval Hospital *....Bethesda, Md.
U. S. Naval Hospital *....Chelsea, Mass.
U. S. Naval Hospital *....Brooklyn
U. S. Naval Hospital *....St. Albans, N. Y.
U. S. Naval Hospital *....Philadelphia
U. S. Naval Hospital *....Newport, R. I.
U. S. Naval Hospital *....Portsmouth, Va.

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Jefferson and Hillman Hospitals *[1]	Birmingham, Ala.	J. M. Mason	3,313	8,757	152	46	5	7/1	1	$ 30.00
Norwood Hospital *	Birmingham, Ala.	C. N. Carraway and R. D. F. Talley	1,000	12,407	9	4	3	.....	3	100.00
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company *	Fairfield, Ala.	L. Noland	1,390	13,275	26	12	3	7/1	1-4	200.00
St. Joseph's Hospital *	Phoenix, Ariz.	J. M. Greer	2,858	.....	21	5	1	7/1	1-2	150.00
Baptist State Hospital *	Little Rock, Ark.	R. M. Eubanks	1,509	.....	43	10	2	.....	1	.....
Herrick Hospital *[1]	Berkeley, Calif.	S. H. Babington	667	310	21	6	1	7/1	1-3	75.00
San Joaquin General Hospital *	French Camp, Calif.	H. J. Bolinger	3,446	3,126	188	29	3	7/1	1-3	200.00
General Hospital of Fresno County *	Fresno, Calif.	C. M. Vanderburgh	664	3,113	39	6	4	.....	1-4	205.00
Seaside Memorial Hospital *[1]	Long Beach, Calif.	C. A. Lauer	1,695	.....	14	1	4	1/1, 7/1	1-3	100.00
California Hospital *[1]	Los Angeles	W. H. Olds	2,706	158	58	31	5	7/1	3	100.00
Cedars of Lebanon Hospital *[1]	Los Angeles	L. Felger	2,600	5,837	68	24	2	7/1	1	100.00
Hospital of the Good Samaritan *[1]	Los Angeles	G. L. Chaffin	6,240	2,016	87	36	3	7/1	3	200.00
Los Angeles County Hospital *[1]	Los Angeles	L. B. Sherry	3,849	6,938	397	92	7	Varies	3½	157.20
Queen of Angels Hospital *	Los Angeles	W. J. Sullivan	2,067	228	..	27	1	7/1	3	100.00
St. Vincent's Hospital *	Los Angeles	F. J. Breslin	2,586	.....	27	11	3	7/1	1-3	.....
Santa Fe Coast Lines Hospital *	Los Angeles	.....	1,211	.....	25	8	2	7/1	1	195.00
White Memorial Hospital *	Los Angeles	G. Thomason	889	9,241	..	..	6	.....	1-3	135.00
Highland-Alameda County Hospital *[1]	Oakland, Calif.	W. W. Crane and S. Everingham	831	.....	75	32	4	7/1	1-3	155.00
Peralta Hospital	Oakland, Calif.	T. C. Lawson	1,850	.....	17	1	4	7/1	1-2	75.00
Permanente Foundation Hospital *[1]	Oakland, Calif.	C. Cutting	1,248	9,260	18	16	3	7/1	1	.....
Samuel Merritt Hospital	Oakland, Calif.	W. Mitchell and W. W. Crane	1,419	.....	18	11	3	7/1	1-3	110.00
Collis P. and Howard Huntington Memorial Hospital *	Pasadena, Calif.	A. C. Pattison	3,231	.....	49	..	2	7/1	1	85.00
San Bernardino County Charity Hospital *	San Bernardino, Calif.	C. J. Clock	549	4,743	31	22	2	1/1	1-2	190.00
San Diego County General Hospital *	San Diego, Calif.	H. Holder	2,046	3,688	169	39	3	7/1	1	187.00
Children's Hospital *[1]	San Francisco	A. K. Kilgore	633	1,533	12	3	1	7/1	1-2	50.00
Franklin Hospital *[1]	San Francisco	T. F. Mullen	1,520	.....	7	4	8	7/1	1	200.00
French Hospital *[1]	San Francisco	W. L. Rogers	1,647	.....	..	..	1	7/1	1	.....
Mary's Help Hospital *	San Francisco	E. Carlson	2,640	8,573	26	13	2	7/1	1	150.00
Mount Zion Hospital *[1]	San Francisco	F. I. Harris	888	.....	37	24	3	7/1	1	75.00
St. Luke's Hospital *[1]	San Francisco	G. D. Delprat	5,264[b]	385[b]	..	..	3	7/1	1	90.00
St. Mary's Hospital *	San Francisco	E. Butler	.....	.....	..	..	4	4/1	1	100.00
San Francisco Hospital *[1]	San Francisco	H. Brumn and L. Eloesser	2,237	.....	227	1	11	.....	1	175.00
Southern Pacific General Hospital *	San Francisco	W. W. Washburn	1,317[b]	.....	..	..	4	.....	1-2	.....
Stanford University Hospitals *[1]	San Francisco	E. F. Holman	1,693	10,319	65	31	10	7/1	1-2	50.00
U. S. Marine Hospital *	San Francisco	S. P. Cooper	1,840	.....	5	3	3	Varies	1-4	.....
University of California Hospital *[1]	San Francisco	H. C. Naffziger	1,595	9,495	34	22	13	7/1	1	50.00
Santa Clara County Hospital *	San Jose, Calif.	C. Sullivan	.....	.....	..	..	1	.....	1	225.00
Santa Barbara Cottage Hospital *[1]	Santa Barbara, Calif.	I. Wills	646	.....	8	3	2	4/1, 10/1	1	100.00
Childrens Hospital	Denver	G. B. Packard	547[b]	.....	..	..	1	7/1	1	50.00
Colorado General Hospital *	Denver	G. B. Packard	513	2,781	37	24	4	7/1	1-3	85.00
St. Luke's Hospital *	Denver	C. W. Metz	1,337	.....	54	21	2	4/1	1-2	50.00
Corwin Hospital *	Pueblo, Colo.	S. B. Potter and G. E. A. Connell	1,212	13,365	33	16	1	7/1	1	75.00
Bridgeport Hospital *	Bridgeport, Conn.	.....	3,487[b]	.....	..	..	1	.....	1	.....
Hartford Hospital *[1]	Hartford, Conn.	C. D. Deming	4,413	.....	87	38	8	7/1	1-5	50.00
St. Francis Hospital *	Hartford, Conn.	.....	4,181	.....	64	14	2	7/1	3	.....
Grace-New Haven Community Hospital Grace Unit *	New Haven, Conn.	R. W. Nichols	1,563	.....	28	..	3	7/1	3	40.00
New Haven Unit *[1]	New Haven, Conn.	S. Harvey	1,935	10,162	..	..	4	7/1	1	40.00
Hospital of St. Raphael *	New Haven, Conn.	W. F. Verdi	1,868	515	141	22	3	7/1	1	75.00
Lawrence and Memorial Associated Hospitals *[1]	New London, Conn.	G. P. Cheney and C. Kaufman	892	.....	36	7	1	8/1	1	150.00
Delaware Hospital *	Wilmington, Del.	L. J. Jones	430	2,421	41	30	1	3/1	1	125.00
Memorial Hospital *	Wilmington, Del.	J. G. Spackman	1,210	1,034	35	23	3	.....	1-3	.....
Central Dispensary and Emergency Hosp.*	Washington, D. C.	J. H. Lyons	2,903	597	61	24	7	7/1	1	50.00
Doctors Hospital *	Washington, D. C.	C. S. White	1,930	.....	43	30	2	7/1	1-2	100.00
Freedmen's Hospital *[1]	Washington, D. C.	C. R. Drew	1,211	5,814	185	16	9	7/1	1-6	75.00
Gallinger Municipal Hospital *[1]	Washington, D. C.	B. Blades	1,160	5,975	59	19	4	7/1	1-3	75.00
Garfield Memorial Hospital *[1]	Washington, D. C.	H. H. Kerr	4,596	1,407	..	..	4	.....	1	75.00
Georgetown University Hospital *	Washington, D. C.	F. R. Sanderson	1,363	1,068	24	8	2	7/1	1-2	75.00
Providence Hospital *	Washington, D. C.	F. R. Sanderson	3,199	1,235	49	25	3	.....	1	.....
Sibley Memorial Hospital *[1]	Washington, D. C.	P. S. Putzki	4,712	.....	87	..	4	.....	1-3	100.00
Duval County Hospital *	Jacksonville, Fla.	E. Jelks	777	.....	57	22	3	.....	1	.....
Riverside Hospital [1]	Jacksonville, Fla.	H. A. Peyton	800[b]	7,034[b]	..	..	1	10/1	1	.....
St. Vincent's Hospital *	Jacksonville, Fla.	F. J. Waas	1,202	.....	24	11	2	7/1	1	125.00
James M. Jackson Memorial Hosp.*	Miami, Fla.	.....	3,246	7,804	116	55	3	7/1	1	95.50
Georgia Baptist Hospital *	Atlanta, Ga.	B. L. Shackleford	4,222	.....	..	..	1	7/1	1	.....
Grady Memorial Hospital *[1]	Atlanta, Ga.	D. C. Elkin	3,272	41,481	189	59	20	7/1	1	30.00
Piedmont Hospital *[1]	Atlanta, Ga.	F. McRae	2,443	.....	30	10	1	7/1	1-2	75.00
St. Joseph's Infirmary *	Atlanta, Ga.	G. P. Huguley	2,839	1,102	30	11	2	7/1	1-3	115.00
University Hospital *[1]	Augusta, Ga.	J. H. Sherman	4,125	2,182	57	7	9	7/1	1-4	40.00
Emory University Hospital *	Emory University, Ga.	D. C. Elkin	14,314	.....	..	..	5	.....	1	50.00
American Hospital *[1]	Chicago	M. Thorek	1,657[b]	.....	..	..	1	4/1	1-2	50.00
Augustana Hospital *	Chicago	N. M. Percy	2,007	3,000	63	24	2	7/1	1-3	50.00
Cook County Hospital *[1]	Chicago	K. A. Meyer	8,360	9,762	679	85	16	Varies	1-3	27.50
Grant Hospital *[1]	Chicago	L. Seed and E. W. Fischmann	.....	.....	..	..	1	7/1	1-3	125.00
Henrotin Hospital *[1]	Chicago	J. A. Graham	740	.....	22	11	2	7/1	1-2	100.00
Illinois Masonic Hospital *[1]	Chicago	P. Shambaugh	970	.....	47	14	2	.....	1	.....
Lutheran Deaconess Home and Hospital *	Chicago	G. H. Schroeder	4,148	.....	75	14	1	.....	1	100.00
Mercy Hospital-Loyola Univ. Clinics *	Chicago	H. A. Oberhelman	2,364	1,722	87	36	3	.....	1-2	25.00
Michael Reese Hospital *[1]	Chicago	N. Crohn	2,677	3,315	..	..	7	.....	1-3	25.00

Numerical and other references will be found on page 1375.

25. SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [a]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [a]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Mount Sinai Hospital ★[4]	Chicago		1,638	1,679	27	13	3	7/1	1	50.00
Norwegian-American Hospital ★[4]	Chicago	M. Lichtenstein	927	.....	10	4	2	1/1, 7/1	1	25.00
Passavant Memorial Hospital ★[4]	Chicago	L. Davis	1,047	10,958	24	14	4	.....	1	None
Presbyterian Hospital ★	Chicago	V. C. David	1,996	2,065	39	20	5	7/1	1-3	25.00
Provident Hospital ★[4]	Chicago	U. G. Dailey	973	910	41	21	2	.....	1	.....
Ravenswood Hospital ★	Chicago	R. F. Greening	2,433	2,915	38	10	1	10/1	1-3	150.00
Research and Educational Hospitals ★	Chicago	W. H. Cole	841	9,137	43	..	4	7/1	1-3	55.00
St. Anne's Hospital ★	Chicago	G. F. Thompson	1,321	.....	34	6	1	7/1	1+	100.00
St. Elizabeth Hospital ★	Chicago	M. G. Luken	7,970	.....	88	28	2	.....	3	60.00
St. Joseph Hospital ★[4]	Chicago	H. McKenna	912	.....	15	8	1	.....	1	.....
St. Luke's Hospital ★[4]	Chicago	E. L. Strohl	4,199	1,527	97	51	11	7/1	1-3	25.00
St. Mary of Nazareth Hospital ★	Chicago	T. Larkowski	1,941	.....	18	10	3	.....	1	.....
U. S. Marine Hospital ★	Chicago	K. E. Gamm	1,124[b]	1,935[b]	..	..	1	.....	1	.....
University of Chicago Clinics ★[4]	Chicago	D. B. Phemister	1,730	13,113	64	51	5	7/1	1-6	25.00
Wesley Memorial Hospital ★[4]	Chicago	R. W. McNealy	2,326	.....	24	11	10	1/1, 7/1	1-3	25.00
Women's and Children's Hospital ★[4]	Chicago	E. Parsons	470	.....	20	8	1	.....	1	.....
Evanston Hospital ★	Evanston, Ill.	F. Christopher	2,002	1,565	29	18	3	.....	3	50.00
St. Francis Hospital ★	Evanston, Ill.	C. E. Pope	1,653	.....	45	24	2	.....	1	75.00
Little Company of Mary Hospital ★	Evergreen Park, Ill.	R. J. Bennett	3,315	.....	28	6	2	12/1	1	100.00
Veterans Administration Hospital	Hines, Ill.	C. B. Puestow	4,252	.....	289	42	39	.....	1-3	275.00
St. Francis Hospital ★[4]	Peoria, Ill.	W. L. Bowen	1,626	6,119	22	8	2	1/1, 4/1	1-2	150.00
Indianapolis City Hospital ★	Indianapolis	M. N. Hadley	1,223	6,923	55	23	5	.....	1	.....
Indiana University Medical Center ★[4]	Indianapolis	W. D. Gatch	2,841	8,154	111	58	7	.....	1	33.33
Methodist Hospital ★	Indianapolis	W. E. Gabe	4,045	.....	72	25	4	7/1	1-2	200.00
Ball Memorial Hospital ★[4]	Muncie, Ind.	W. C. Moore	2,998	.....	112	30	3	7/1	1-2	100.00
Iowa Methodist Hospital ★	Des Moines, Iowa	J. B. Priestley	979[b]	754[b]	..	..	2	.....	1-3	.....
University Hospitals ★[4]	Iowa City	F. R. Peterson	3,022	4,227	132	77	17	.....	1	40.00
St. Margaret's Hospital ★	Kansas City, Kan.	C. C. Nesselrode	814	482	40	30	3	7/1	3	50.00
University of Kansas Hospitals ★[4]	Kansas City, Kan.	T. G. Orr	821	2,630	34	18	4	.....	1	.....
St. Francis Hospital ★	Wichita, Kan.	A. P. Gearhart	3,693	.....	79	39	1	.....	1	.....
Wesley Hospital ★	Wichita, Kan.	A. L. Crittenden	1,434	.....	32	11	1	2/1	1-3	150.00
St. Joseph's Hospital ★	Lexington, Ky.		4,280	.....	112	31	3	7/1	1-3	90.00
Louisville General Hospital ★	Louisville, Ky.	R. A. Griswold	1,820	11,401	101	39	14	4/1	1-6	45.00
Norton Memorial Infirmary ★	Louisville, Ky.	P. R. Imes	905	.....	25	8	2	7/1	1-2	75.00
St. Joseph's Infirmary ★	Louisville, Ky.	I. Abell Sr.	6,356	2,373	106	25	4	7/1	1-4	75.00
Charity Hospital of Louisiana ★[4]	New Orleans		7,924	23,604	421	117	27	7/1	1-4	25.00
Hotel Dieu, Sisters' Hospital ★	New Orleans		1,740	.....	33	8	2	7/1	1	100.00
Touro Infirmary ★	New Orleans	J. D. Rives	3,896	5,958	98	57	5	7/1	1	17.50
U. S. Marine Hospital ★[4]	New Orleans	O. C. Williams	2,129	7,080	21	14	2	1/1, 7/1	4	101.43
Shreveport Charity Hospital ★[4]	Shreveport, La.	J. E. Heard	2,078	4,532	75	29	7	7/1	1-3	60.00
Maine General Hospital ★	Portland, Me.	C. M. Robinson	2,052	919	75	22	6	.....	1+	50.00
Baltimore City Hospitals ★[4]	Baltimore	T. B. Ayeock	2,106	2,619	177	70	5	7/1	1	35.00
Bon Secours Hospital ★[4]	Baltimore	G. Stewart	1,061	456	20	3	2	4/1	1-3	76.00
Church Home and Hospital ★[4]	Baltimore	T. S. Cullen	3,535	1,181	62	30	4	7/1	1	45.00
Franklin Square Hospital ★[4]	Baltimore	E. S. Johnson	2,113	3,832	28	17	3	.....	1	.....
Hospital for Women ★[4]	Baltimore	W. Rienhoff	772	1,503	15	6	3	4/1	1	.....
Johns Hopkins Hospital ★	Baltimore	A. Blalock	3,016	45,478	117	68	11	7/1	1-4+	.....
Maryland General Hospital ★[4]	Baltimore	R. F. Chenowith	2,791	1,563	88	21	7	7/1	1-4	50.00
Mercy Hospital ★	Baltimore	W. D. Wise	2,065	.....	72	20	5	7/1	1	50.00
Provident Hospital and Free Dispensary ★[4]	Baltimore	S. McLanahan	969	.....	..	..	2	.....	1	.....
St. Agnes Hospital ★[4]	Baltimore	G. A. Stewart and R. T. Shakelford	1,524	625	48	12	4	.....	1	.....
St. Joseph's Hospital ★	Baltimore	W. R. Geraghty	1,953	4,930	51	14	5	7/1	2-3	50.00
Sinai Hospital ★[4]	Baltimore	H. M. Kern	2,433	.....	44	35	5	.....	1	35.00
South Baltimore General Hospital ★[4]	Baltimore	O. S. Lloyd	1,855	4,154	71	13	4	.....	1	.....
Union Memorial Hospital ★	Baltimore	J. M. T. Finney Jr.	4,705[b]	6,784[b]	..	..	8	7/1	1	.....
U. S. Marine Hospital ★	Baltimore	J. D. Lane Jr.	2,522	4,169	12	4	5	7/1	1-3	184.16
University Hospital ★[4]	Baltimore	A. M. Shipley	2,573	9,678	93	21	9	7/1	1-2	None
West Baltimore General Hospital ★	Baltimore	N. C. Marvel	1,055	4,475	24	..	4	.....	1-3	.....
Suburban Hospital ★	Bethesda, Md.		1,256	441	20	9	1	7/1	1-2	100.00
Beverly Hospital ★	Beverly, Mass.	P. P. Johnson	2,116	3,626	39	31	2	.....	2-3	50.00
Beth Israel Hospital ★	Boston	C. G. Nixter	2,480	4,045	72	48	8	7/1	1-3	41.66
Boston City Hospital ★[4]	Boston	R. C. Cochrane	10,491	58,760	635	61	9	.....	1-2	50.00
Children's Hospital ★[4]	Boston	F. Ingraham	1,492	12,310	32	26	4	Varies	1	.....
Lahey Clinic	Boston	F. H. Lahey	4,000[b]	.....	..	..	18	Varies	1-2	.....
Massachusetts General Hospital ★	Boston	E. D. Churchill and A. W. Allen	4,665	16,540	97	58	35	7/1	1-3	41.67
Massachusetts Memorial Hospitals ★[4]	Boston	R. H. Smithwick	3,257	2,380	18	10	3	4/1	1	50.00
New England Hospital for Women and Children ★[4]	Boston	G. E. Rockford	1,107	4,570	12	..	1	1/1	1	50.00
Peter Bent Brigham Hospital ★	Boston	E. C. Cutler	2,467	27,000	76	45	9	Varies	1	.....
U. S. Marine Hospital ★	Boston	R. L. Waugh	3,075	11,642	29	12	4	7/1	4	76.00
Mount Auburn Hospital ★[4]	Cambridge, Mass.	H. P. Stevens	1,735	2,272	36	15	2	7/1	1	50.00
Truesdale Hospital	Fall River, Mass.	W. G. Atwood	2,073	.....	27	14	4	1/1, 7/1	1	100.00
Newton-Wellesley Hospital ★[4]	Newton, Mass.	R. I. Smith	2,518	798	59	17	1	8/5	1-3	100.00
Salem Hospital ★[4]	Salem, Mass.	W. G. Phippen	2,290	1,870	61	..	1	.....	1	50.00
Memorial Hospital ★	Worcester, Mass.	B. H. Alton	2,553	658	43	14	1	.....	1+	125.00
St. Vincent Hospital ★	Worcester, Mass.	J. M. Fallon	2,280	403	45	9	2	7/1	1	75.00
Worcester City Hospital ★	Worcester, Mass.	B. F. Andrews	2,376	3,529	114	17	2	.....	1	50.00
St. Joseph's Mercy Hospital ★	Ann Arbor, Mich.	H. Beebe and F. A. Coller	1,112	.....	47	13	2	.....	2	125.00
University Hospital ★[4]	Ann Arbor, Mich.	F. A. Coller	2,053	11,434	100	62	40	.....	1	101.40
Leila Y. Post Montgomery Hospital ★	Battle Creek, Mich.	R. L. Mustard	879	1,750	26	10	4	7/1	1-3	100.00
Alexander Blain Hospital [4]	Detroit	A. W. Blain and J. H. Blain	1,121	14,578	23	11	8	.....	1	.....
Charles Godwin Jennings Hospital ★	Detroit	J. B. Hartzell	.....	.....	..	..	2	7/1	1-3	200.00
City of Detroit Receiving Hospital ★[4]	Detroit	C. Johnston	2,916	13,071	241	53	11	7/15	1	149.67
Grace Hospital ★	Detroit	C. S. Kennedy	2,411	1,766	55	21	6	7/1	1-3	75.00
Harper Hospital ★[4]	Detroit	W. D. Barrett	8,734[b]	.....	..	..	20	.....	1	113.00
Henry Ford Hospital ★[4]	Detroit	R. D. McClure	9,241	120,017	119	55	48	7/1	1-5	200.00
Mount Carmel Mercy Hospital ★	Detroit	L. J. Gariepy	7,235	.....	101	28	9	7/1	1-4	100.00
Providence Hospital ★	Detroit	R. Bookmeyer	4,145	.....	42	22	4	.....	1	.....
St. Mary's Hospital ★	Detroit	G. K. Glasgow	4,633	911	56	37	4	.....	3	140.00
U. S. Marine Hospital ★	Detroit		3,307[b]	9,930[b]	..	..	2	.....	1-2	.....
Women's Hospital ★	Detroit	W. E. Johnston	4,276	.....	15	14	1	7/1	1-4	100.00
Wayne County General Hospital and Infirmary ★[4]	Eloise, Mich.	R. V. Walker	2,232	8,479	122	37	7	7/1	1	197.50

Numerical and other references will be found on page 1375.

25. SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Hurley Hospital	Flint, Mich.	A. H. Kretchmar	1,555	.....	33	10	3	7/1	1	.....
Blodgett Memorial Hospital	Grand Rapids, Mich.	J. D. Miller	1,306	.....	23	13	3	10/1	1-3	175.00
Butterworth Hospital	Grand Rapids, Mich.	D. Chandler	4,314	.....	94	33	3	7/1	1-3	100.00
St. Mary's Hospital	Grand Rapids, Mich.	S. L. Moleski	3,636	362	90	38	3	.....	3	125.00
Highland Park General Hospital	Highland Park, Mich.	F. C. Witter	1,485	60	25	13	3	7/1	1	150.00
Bronson Methodist Hospital	Kalamazoo, Mich.	H. C. Jackson	769	97	4	2	3	7/1	3	150.00
St. Mary's Hospital	Duluth, Minn.	F. J. Elias	1,504	.....	43	32	1	.....	1	.....
Lutheran Deaconess Home and Hospital	Minneapolis	A. G. Andersen	2,806	.....	23	5	1	1/1	1	175.00
Minneapolis General Hospital	Minneapolis	A. A. Zierold	953	3,439	82	43	12	1/1, 7/1	1-3	100.00
University Hospitals	Minneapolis	O. H. Wangensteen	1,274	6,172	103	80	16	7/1	1-3	100.00
Mayo Foundation	Rochester, Minn.	D. C. Balfour	(See page 1375)				135	.....	1	.....
Ancker Hospital	St. Paul	A. R. Colvin	1,141	1,690	110	89	3	1/1	3	91.50
Charles T. Miller Hospital	St. Paul	H. B. Zimmerman	1,681	1,919	..	..	2	1/1	1-3	100.00
Vicksburg Hospital	Vicksburg, Miss.	W. H. Parsons	2,057	18,650	23	13	3	1/1	3-5	50.00
St. Louis County Hospital	Clayton, Mo.	L. Will	970	6,387	96	41	3	7/1	1-3	60.00
Ellis Fischel State Cancer Hospital	Columbia, Mo.	E. D. Sugarbaker	1,145	5,003	41	31	4	7/1	1-2	50.00
Kansas City General Hospital, No. 1	Kansas City, Mo.	C. J. Hunt	1,019	3,658	81	27	7	7/1	2-4	50.00
Research Hospital	Kansas City, Mo.	C. J. Hunt	2,057	.....	41	23	2	3/1	1	.....
St. Joseph Hospital	Kansas City, Mo.	V. T. Williams	2,071[b]	.....	..	..	1	.....	1-3	75.00
St. Luke's Hospital	Kansas City, Mo.	C. B. Schutz	1,813[b]	2,160[b]	..	..	1	.....	1	.....
St. Mary's Hospital	Kansas City, Mo.	J. E. Castles	2,264	.....	51	36	2	7/1	1	.....
Barnes Hospital	St. Louis	E. A. Graham	1,646	5,922	69	51	9	7/1	1-4	25.00
De Paul Hospital	St. Louis	H. A. Hassett	1,643	117	68	12	2	7/1	1-2	.....
Homer G. Phillips Hospital	St. Louis	R. Elman	1,981	6,417	152	25	5	7/1	1	50.00
Jewish Hospital	St. Louis	M. W. Myer	2,071	.....	51	20	2	.....	1	50.00
Missouri Baptist Hospital	St. Louis	H. Talbott	3,178	.....	..	..	4	7/1	1-3	70.00
St. Anthony's Hospital	St. Louis	F. Tainter	3,028	.....	53	..	1	7/1	1	50.00
St. John's Hospital	St. Louis	W. P. Glennon	2,749	1,007	71	24	3	7/1	1-2	50.00
St. Louis City Hospital	St. Louis	.....	2,940	6,407	286	111	15	7/1	1	86.00
St. Luke's Hospital	St. Louis	G. L. Krause	2,089	.....	..	..	2	7/1	1	75.00
St. Mary's Group of Hospitals	St. Louis	J. W. Stewart	2,404	5,715	93	45	6	Varies	3	35.00
Montana Deaconess Hospital	Great Falls, Mont.	L. L. Howard	728	290	4	1	1	7/1, 8/1	1-2	250.00
Bishop Clarkson Memorial Hospital	Omaha	C. H. Waters	1,298[b]	.....	..	..	1	.....	1	.....
Creighton Memorial St. Joseph's Hosp.	Omaha	C. McMartin	5,770	2,699	59	25	1	7/1	1-2	100.00
Nebraska Methodist Hospital	Omaha	J. Brush	620[b]	.....	..	..	1	.....	1	.....
University of Nebraska Hospital	Omaha	J. J. Keegan	358	1,193	17	17	2	7/1	1-3	50.00
Atlantic City Hospital	Atlantic City, N. J.	H. I. Silvers	3,370	21,978	132	40	1	7/1	1	.....
Cooper Hospital	Camden, N. J.	I. E. Delbert	1,834	6,081	121	47	2	.....	1-2	83.33
West Jersey Hospital	Camden, N. J.	H. W. Jack	1,092	2,438	72	18	3	7/1	2	75.00
Hackensack Hospital	Hackensack, N. J.	G. M. Finke	.....	3,217	26	2	1	7/1	1	100.00
Jersey City Hospital	Jersey City, N. J.	E. Burke	2,929	20,944	165	24	4	Varies	1-3	35.00
Mountainside Hospital	Montclair, N. J.	R. T. Hobart	2,878	3,437	88	37	1	7/1	1	100.00
Burlington County Hospital	Mount Holly, N. J.	T. J. Summey	946	1,856	46	22	2	7/1	1-2	100.00
Hospital of St. Barnabas and for Women and Children	Newark, N. J.	.....	2,445	3,613	..	..	3	7/1	1-3	100.00
Newark Beth Israel Hospital	Newark, N. J.	.....	2,580[b]	687[b]	..	..	1	.....	1	.....
Presbyterian Hospital	Newark, N. J.	.....	2,102	154	67	..	4	1/1, 7/1	1-2	200.00
Albany Hospital	Albany, N. Y.	E. H. Campbell Jr.	2,530	.....	75	43	5	7/1	1	41.67
Binghamton City Hospital	Binghamton, N. Y.	.....	2,023	.....	40	9	1	7/1	1	100.00
Beth Moses Hospital	Brooklyn	.....	1,654	2,836	77	3	2	1/1, 7/1	1-2	125.00
Brooklyn Hospital	Brooklyn	W. H. Field	2,194	3,196	73	15	3	7/1	1-3	25.00
Coney Island Hospital	Brooklyn	D. A. McAteer	2,298	34,327	85	10	3	1/1, 7/1	1	70.00
Cumberland Hospital	Brooklyn	H. T. Wikle	2,273	12,406	115	16	3	7/1	1	70.00
Greenpoint Hospital	Brooklyn	J. Smith Jr.	1,572	7,689	63	14	2	7/1	1	120.00
Jewish Hospital	Brooklyn	.....	1,926	5,922	50	14	5	.....	4	30.00
Kings County Hospital	Brooklyn	T. Tenopyr and R. Barber	13,901	31,778	508	102	7	7/1	1-3	70.00
Long Island College Hospital	Brooklyn	E. Goetsch	2,245	8,606	41	16	5	7/1	1-6	25.00
Methodist Hospital	Brooklyn	H. F. Graham	2,289	4,586	73	9	2	7/1	1-4	50.00
Norwegian Lutheran Deaconesses' Home and Hospital	Brooklyn	R. W. Tate and D. Livingstone	.....	.....	..	..	1	.....	1	.....
St. John's Hospital	Brooklyn	M. N. Foote	1,866	4,532	44	..	3	7/1	1-3	50.00
St. Mary's Hospital	Brooklyn	T. M. Brennan	2,276	3,139	47	6	1	4/1	1	60.00
Buffalo General Hospital	Buffalo	W. L. Machemer	3,003	874	94	41	6	7/1	1-2	25.00
Children's Hospital	Buffalo	W. L. Machemer	696	.....	11	7	1	.....	1	25.00
Deaconess Hospital	Buffalo	.....	4,943	987	82	30	4	7/1	1-3	60.00
Edward J. Meyer Memorial Hospital	Buffalo	J. D. Stewart	1,429	1,984	120	51	13	7/1	1-5	100.00
Millard Fillmore Hospital	Buffalo	H. N. Kenwell	2,793	.....	47	14	8	.....	1-4	50.00
Mary McClellan Hospital	Cambridge, N. Y.	.....	1,100	3,525	27	10	1	7/1	1	.....
Clifton Springs Sanitarium and Clinic	Clifton Springs, N. Y.	A. S. Taylor	918	.....	24	16	2	7/1	1-3	50.00
Mary Imogene Bassett Hospital	Cooperstown, N. Y.	M. A. McIver	718	5,247	26	12	2	7/1	1-2	83.33
Meadowbrook Hospital	Hempstead, N. Y.	A. S. Warinner	962	.....	65	44	2	4/1	1-2	115.00
Mary Immaculate Hospital	Jamaica, N. Y.	F. N. Dealy	654	873	11	5	1	7/1	1-3	120.00
Queens General Hospital	Jamaica, N. Y.	F. N. Dealy	2,849	9,031	232	109	6	.....	1-3	70.00
Charles S. Wilson Memorial Hospital	Johnson City, N. Y.	F. G. Moore	4,243	.....	43	14	1	7/1	1	200.00
New Rochelle Hospital	New Rochelle, N. Y.	G. C. Adie	2,271	.....	..	..	2	7/1	1-3	100.00
Bellevue Hosp. Div. I—Columbia Univ.	New York City	F. B. Berry	2,339	10,738	98	36	5	1/1, 7/1	3	70.00
Bellevue Hosp., Div. II—Cornell Univ.	New York City	G. S. Dudley	2,300	11,213	81	37	3	7/1	1	70.00
Bellevue Hosp., Div. III—N. Y. Univ.	New York City	J. H. Mulholland	2,396	10,035	88	32	8	7/1	4	70.00
Bellevue Hosp., Div. IV—Open Division	New York City	A. S. McQuillan	2,256	9,116	84	47	6	7/1	1	70.00
Beth Israel Hospital	New York City	P. Klingenstein	1,189	3,067	47	14	4	7/1	1-4	50.00
Bronx Hospital	New York City	S. Cohn	2,271	2,649	47	7	6	7/1	1-3	75.00
Flower and Fifth Avenue Hospitals	New York City	J. Winfield	2,367	4,252	40	10	9	7/1	1	.....
Fordham Hospital	New York City	L. Marton	.....	.....	..	..	6	7/1	1	70.00
Gouverneur Hospital	New York City	M. G. Elias	731	9,305	58	11	4	.....	1	70.00
Harlem Hospital	New York City	L. T. Wright	4,547	15,239	229	26	8	1/1, 7/1	1	70.00
Hospital for Special Surgery	New York City	C. G. Burdick	1,157	2,501	11	4	3	.....	1	50.00
Knickerbocker Hospital	New York City	R. H. Patterson	.....	.....	..	..	1	7/1	1+	110.00
Lenox Hill Hospital	New York City	J. C. A. Gerster and O. C. Prickhardt	2,622	5,302	72	27	6	7/1	1	50.00
Metropolitan Hospital	New York City	J. Winfield	1,601	5,177	111.	13	5	4/1, 7/1	1	50.00
Montefiore Hospital for Chronic Diseases	New York City	S. Standard	383	.....	58	24	3	1/1	1	50.00

Numerical and other references will be found on page 1375.

25. SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies [8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Morrisania City Hospital *[4]	New York City	G. Milani and P. Daly	1,088	3,946	66	24	4	7/1	1	70.00
Mount Sinai Hospital *[4]	New York City	.....	.....	.....	..	..	11	1/1, 7/1	1+	50.00
New York City Hospital *[4]	New York City	I. Kross	2,017	7,930	134	32	5	7/1	1-3	70.00
New York Hospital *[4]	New York City	F. Glenn	2,941	43,794	70	44	23	7/1	1-7	25.00
New York Infirmary for Women and Children *[4]	New York City	A. Hubert	498	1,944	3	1	2	7/1	1	75.00
New York Polyclinic Medical School and Hospital *	New York City	R. E. Brennan	1,637	.....	32	6	12	7/1	3	25.00
New York Post-Graduate Medical School and Hospital *	New York City	T. H. Russell	3,356	13,814	113	40	22	Varies	1	30.00
Presbyterian Hospital *[4]	New York City	A. O. Whipple	3,871	61,033	129	..	19	.....	1-4	41.66
Roosevelt Hospital *	New York City	.....	3,288	8,920	151	33	14	7/1	1-3	25.00
St. Clare's Hospital *	New York City	W. V. Healey	6,652	6,811	91	38	3	9/1	3	25.00
St. Luke's Hospital *	New York City	W. F. MacFee	2,769	13,506	108	36	10	Varies	1-5	50.00
St. Vincent's Hospital *[4]	New York City	G. R. Stuart	3,847	11,775	193	63	3	7/1	1-3	50.00
Veterans Administration Hospital	New York City	R. B. Moreland	2,006	.....	47	16	12	7/1	1-4	303.33
Genesee Hospital *	Rochester, N. Y.	S. J. Stabins	3,083	.....	74	34	2	.....	1	.....
Highland Hospital *[4]	Rochester, N. Y.	W. A. Caliban	1,840	379	44	23	3	7/1	1-2	100.00
Rochester General Hospital *[4]	Rochester, N. Y.	W. A. Fenstermacher	3,142	4,033	42	32	7	7/1	1-3	60.00
St. Mary's Hospital *[4]	Rochester, N.Y.	L. F. Simpson	5,342	3,993	..	..	2	7/1	1-3	125.00
Strong Memorial and Rochester Municipal Hospitals *[4]	Rochester, N. Y.	J. J. Morton	2,356	13,527	148	103	14	7/1	1-4	41.66
Hospital of the Good Shepherd *	Syracuse, N. Y.	A. B. Raffi	.....	.....	..	..	3	.....	1-2	50.00
Grasslands Hospital *[4]	Valhalla, N. Y.	G. C. Adie	371	3,143	40	23	4	7/1	1-3	75.00
Charlotte Memorial Hospital *[4]	Charlotte, N. C.	T. D. Sparrow	1,457	.....	38	21	4	1/1, 7/1	1	75.00
Duke Hospital *[4]	Durham, N. C.	D. Hart	2,517	15,750	53	27	13	1/1	1	.....
Watts Hospital *	Durham, N. C.	W. B. McCutcheon	2,121	3,725	30	4	5	7/1	1-4	50.00
Rutherford Hospital	Rutherfordton, N. C.	R. H. Crawford	676	7,287	20	..	1	.....	1	.....
James Walker Memorial Hospital *	Wilmington, N. C.	J. W. Hooper and H. A. Codington	1,617	8,271	32	16	1	Varies	1-2	200.00
City Hospital *	Winston-Salem, N. C.	J. F. Marshall	4,933	5,725	104	21	6	.....	1	75.00
North Carolina Baptist Hospital *[4]	Winston-Salem, N. C.	H. H. Bradshaw	1,008	5,410	26	12	11	.....	1-3	.....
Bismarck Evangelical Hospital	Bismarck, N. D.	N. O. Ramstad	824	.....	7	2	2	7/1	1½-3	100.00
St. Luke's Hospital *[4]	Fargo, N. D.	.....	2,030	1,567	12	..	1	7/1	1-2	100.00
Trinity Hospital *	Minot, N. D.	A. L. Cameron	730	4,915	17	13	1	.....	1	150.00
Children's Hospital	Akron, Ohio	.....	1,124	99	12	7	1	7/1	1-2	100.00
City Hospital *	Akron, Ohio	.....	2,126	.....	49	19	6	.....	1	100.00
Peoples Hospital *	Akron, Ohio	J. D. Smith	1,678	119	56	15	3	7/1	1-2	150.00
St. Thomas Hospital *	Akron, Ohio	E. C. Banker	1,810	440	21	5	3	7/1	1	125.00
Aultman Hospital *	Canton, Ohio	L. L. Lawrence	3,716	.....	68	32	9	7/1	1-4	75.00
Mercy Hospital *	Canton, Ohio	A. W. Warren	3,698	.....	81	10	3	1/1, 7/1	1-3	100.00
Christ Hospital *	Cincinnati	P. W. Sutton	2,185	3,045	101	43	6	7/1	1-3	75.00
Cincinnati General Hospital *	Cincinnati	B. N. Carter	3,437	18,929	356	114	17	7/1	1-6	.....
Deaconess Hospital *[4]	Cincinnati	.....	2,447	.....	38	11	1	10/1	1	75.00
Good Samaritan Hospital *	Cincinnati	L. B. Johnston	7,989	1,092	78	26	6	7/1	1-4	105.00
Jewish Hospital *	Cincinnati	J. L. Ransohoff	5,001	.....	60	23	5	7/1	1-4	75.00
St. Mary's Hospital *	Cincinnati	J. J. Maloney	1,525	693	32	10	3	7/1	1-3	105.00
City Hospital *[4]	Cleveland	C. H. Lenhart	2,706	1,870	203	104	18	7/1	1-4	50.00
Cleveland Clinic Foundation Hospital	Cleveland	T. E. Jones	2,560	19,913	41	21	14	7/1	1-3	100.00
Fairview Park Hospital *	Cleveland	H. W. Masenhimer	1,078	667	26	10	2	7/1	1	100.00
Lutheran Hospital *[4]	Cleveland	F. S. Gibson	2,514	.....	42	18	4	7/1	1-2	100.00
Mount Sinai Hospital *[4]	Cleveland	S. O. Freedlander	2,057	1,127	50	21	4	7/1	1	100.00
St. Alexis Hospital *	Cleveland	E. A. Mastics	5,302	2,359	68	20	6	7/1	1	75.00
St. John's Hospital *[4]	Cleveland	J. R. Ripton	1,839	.....	19	10	4	7/1	4	100.00
St. Luke's Hospital *	Cleveland	D. M. Glover	2,524	3,929	79	42	4	6/25	4	60.00
St. Vincent Charity Hospital *	Cleveland	E. P. Neary	2,804	6,446	69	13	7	.....	1+	75.00
University Hospitals *[4]	Cleveland	C. H. Lenhart	3,646	8,500	94	51	19	7/1	1	25.00
Mount Carmel Hospital *	Columbus, Ohio	W. H. Teachnor	1,731	.....	51	19	1	1/1	3	135.00
St. Francis Hospital *	Columbus, Ohio	I. B. Harris	1,561	.....	70	30	3	.....	1	.....
Starling-Loving University Hospital *[4]	Columbus, Ohio	V. A. Dodd	1,638	4,039	106	66	14	7/1	1-3	50.00
Miami Valley Hospital *	Dayton, Ohio	R. K. Finley	3,035	1,004	90	26	3	7/1	1-3	75.00
Huron Road Hospital *[4]	East Cleveland, Ohio	A. E. Biddinger	2,714	386	71	26	5	.....	1-5	80.00
Mercy Hospital *[4]	Hamilton, Ohio	G. Riggs	531	.....	..	..	1	7/1	1-3	100.00
Lakewood Hospital *[4]	Lakewood, Ohio	N. W. Thiessen	979	102	23	5	3	7/1	1-3	100.00
Maumee Valley Hospital *	Toledo, Ohio	E. J. McCormick	1,192	3,872	116	34	2	7/1	1	150.00
Mercy Hospital *	Toledo, Ohio	T. F. Heatley	4,646	.....	72	26	1	.....	1	.....
St. Vincent's Hospital *[4]	Toledo, Ohio	F. M. Douglass	4,605	3,541	112	24	2	.....	1	.....
St. Elizabeth's Hospital *[4]	Youngstown, Ohio	J. M. Ranz	1,528	239	21	5	1	7/1	1	125.00
Youngstown Hospital *	Youngstown, Ohio	.....	4,118	331	93	25	3	7/1	1-3	100.00
St. Anthony Hospital *	Oklahoma City	R. M. Howard	5,586	.....	213	39	3	7/1	1	75.00
University Hospitals *	Oklahoma City	C. E. Clymer	819	4,080	43	18	3	7/1	1-3	35.00
Emanuel Hospital *	Portland, Ore.	O. M. Nisbet	1,251	.....	9	6	2	1/1, 7/1	1+	75.00
Good Samaritan Hospital *	Portland, Ore.	M. McKirdie	2,287	.....	24	9	1	7/1	..	75.00
Providence Hospital *	Portland, Ore.	L. P. Gambee	754	.....	7	1	1	7/1	1-2	50.00
University of Oregon Medical School Hospitals and Clinics *[4]	Portland, Ore.	T. M. Joyce	1,168	5,413	68	44	4	7/1	3	75.00
Abington Memorial Hospital *	Abington, Pa.	D. Pfeiffer	2,440	2,355	78	35	3	7/1	1	50.00
Allentown Hospital *[4]	Allentown, Pa.	.....	3,816	3,738	106	28	2	7/1	2	75.00
Sacred Heart Hospital *	Allentown, Pa.	W. A. Hausman Jr.	8,518	9,156	100	24	2	7/1	1-3	200.00
St. Luke's Hospital *[4]	Bethlehem, Pa.	W. L. Estes Jr.	2,425	169	110	42	3	Quarterly	1-2	100.00
Bradford Hospital	Bradford, Pa.	C. H. Smith	1,262	.....	18	..	2	1/1, 7/1	1-3	100.00
Bryn Mawr Hospital *	Bryn Mawr, Pa.	.....	457	1,148	27	7	2	.....	1	125.00
George F. Geisinger Memorial Hospital *[4]	Danville, Pa.	H. L. Foss	1,870	15,316	32	16	3	7/1	1-2	75.00
Conemaugh Valley Memorial Hospital *[4]	Johnstown, Pa.	.....	.....	.....	..	..	2	7/1	1	100.00
St. Joseph's Hospital *	Lancaster, Pa.	J. L. Atlee Jr.	1,649	4,501	59	32	3	7/1	3	150.00
Episcopal Hospital *[4]	Philadelphia	I. M. Boykin and E. T. Crossan	2,734	12,585	102	..	2	.....	1	50.00
Germantown Dispensary and Hospital *	Philadelphia	W. B. Swartley	2,166	16,956	101	23	2	7/1	1-2	50.00
Graduate Hospital of the Univ. of Penn. *	Philadelphia	W. Bates	930	10,690	51	18	3	7/1	1-3	.....
Hahnemann Hospital *[4]	Philadelphia	W. L. Martin	4,309	16,177	181	62	2	.....	2-3	.....
Hospital of the Univ. of Pennsylvania *[4]	Philadelphia	I. S. Ravdin	3,918	33,519	64	41	10	4/1	1-5	100.00
Hospital of the Woman's Medical College of Pennsylvania *[4]	Philadelphia	L. K. Ferguson	692	3,310	20	9	1	7/1	1-2	50.00
Jefferson Medical College Hospital *	Philadelphia	T. H. Shallow and G. P. Muller	3,832	14,471	165	65	10	.....	1	.....

Numerical and other references will be found on page 1375.

25. SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Jewish Hospital *†	Philadelphia		3,718	.....	124	52	2	7/1	1-2	50.00
Lankenau Hospital *	Philadelphia	G. C. Engel	1,525	7,296	37	20	2	7/1	1-3	100.00
Mount Sinai Hospital *†	Philadelphia	M. Behrend and B. Lipshutz	1,409	7,355	41	28	2	6/1	1-3	50.00
Pennsylvania Hospital *	Philadelphia	H. P. Brown and J. H. Gibbon	1,951	11,253	98	32	6	.....	1	.....
Philadelphia General Hospital *†	Philadelphia		3,418	.....	240	..	4	.....	1-3	70.00
Presbyterian Hospital *†	Philadelphia	W. L. Cariss	2,138	6,126	..	..	2	.....	1-3	50.00
Temple University Hospital *†	Philadelphia	W. E. Burnett	1,998	26,438	77	36	6	7/1	3	50.00
Woman's Hospital *†	Philadelphia	C. M. Smyth Jr.	761	.....	..	..	1	7/1	3	100.00
Allegheny General Hospital *	Pittsburgh	J. C. Burt	2,617	4,425	71	15	1	7/1	1	100.00
Children's Hospital †	Pittsburgh	W. O. Sherman and E. W. Meredith	862	2,190	18	7	1	7/1	1-3	75.00
Mercy Hospital *†	Pittsburgh	H. H. Donaldson	4,419	5,401	62	18	3	9/1	1-3	.....
Montefiore Hospital *	Pittsburgh	H. Frankenstein	1,270	2,046	29	7	3	7/1	3	50.00
Presbyterian Hospital *†	Pittsburgh	E. W. Meredith	1,306	.....	31	16	6	.....	1-5	33.00
St. Francis Hospital *†	Pittsburgh		2,630	257	60	18	3	.....	3	100.00
Reading Hospital *†	Reading, Pa.	W. A. Lebkicher	1,631	5,050	49	25	1	7/1	1	125.00
St. Joseph's Hospital *	Reading, Pa.	M. Gerhart	1,223	.....	35	16	1	7/1	1	.....
Robert Packer Hospital *	Sayre, Pa.	D. Guthrie	1,926	.....	39	21	3	7/1	2	150.00
Mercy Hospital *	Wilkes-Barre, Pa.		1,090	842	11	3	3	7/1	1	150.00
Wilkes-Barre General Hospital *	Wilkes-Barre, Pa.	S. P. Mengel	2,725	1,595	77	3	2	.....	1	100.00
York Hospital *	York, Pa.	J. F. Bacon	1,565	1,151	38	9	1	7/1	1	200.00
Rhode Island Hospital *	Providence, R. I.	E. M. Porter	3,522	5,192	238	93	4	1/1	3	50.00
Roper Hospital *	Charleston, S. C.	F. E. Kredel	2,360	4,069	63	25	7	7/1	1-4	25.00
Baroness Erlanger Hospital *	Chattanooga, Tenn.	W. J. Sheridan	3,647	2,078	100	24	7	7/1	1	75.00
Knoxville General Hospital *†	Knoxville, Tenn.	C. Smeltzer	1,730	1,868	87	23	2	7/1	1	75.00
John Gaston Hospital *	Memphis, Tenn.	J. L. McGehee	2,174	10,898	104	47	5	7/1	1	32.50
Methodist Hospital *†	Memphis, Tenn.		2,108	.....	40	9	2	.....	1	.....
St. Joseph Hospital *	Memphis, Tenn.	A. R. Porter Jr.	1,666	.....	28	7	1	7/1	1-2	100.00
George W. Hubbard Hospital of Meharry Medical College *	Nashville, Tenn.	M. Walker	879	3,389	57	17	5	7/1	1-3	75.00
Nashville General Hospital *	Nashville, Tenn.	M. M. Simmons	1,603	21,156	82	17	4	7/1	1	.....
St. Thomas Hospital *	Nashville, Tenn.	L. W. Edwards	2,487	.....	26	11	7	7/1	1-3	75.00
Vanderbilt University Hospital *†	Nashville, Tenn.	B. Brooks	2,924	14,210	77	41	9	7/1	1	.....
Baylor University Hospital *†	Dallas, Texas	H. W. Cochran	2,088	.....	62	21	3	7/1	1-3	50.00
Parkland Hospital *†	Dallas, Texas	L. Hudson	.....	.....	..	..	4	.....	1	50.00
St. Paul's Hospital *	Dallas, Texas	O. W. Gibbons	2,943	.....	47	14	4	7/1	1-2	50.00
John Sealy Hospital *†	Galveston, Texas	A. O. Singleton	1,199	4,937	54	31	10	.....	1	50.00
Hermann Hospital *†	Houston, Texas	H. F. Poyner	1,772	3,594	32	18	2	7/1	1-3	50.00
Jefferson Davis Hospital *†	Houston, Texas	J. H. Wootters	.....	.....	..	..	3	7/1	1-3	50.00
Memorial Hospital	Houston, Texas		5,428	.....	58	11	6	.....	1	.....
Methodist Hospital *	Houston, Texas		1,001	12	12	5	2	7/1	1-3	75.00
St. Joseph's Infirmary †	Houston, Texas	G. W. Waldron	8,335	16,978	306	120	3	.....	1	.....
Southern Pacific Hospital	Houston, Texas	J. R. Gandy	576	5,293	1	..	2	.....	1-2	125.00
Scott and White Hospital *†	Temple, Texas	G. V. Brindley	3,241	.....	40	19	12	.....	2-3	150.00
Dr. W. H. Groves Latter-Day Saints Hospital *†	Salt Lake City	A. M. Okelberry	2,891	.....	34	29	3	7/1	1-3	100.00
St. Mark's Hospital *†	Salt Lake City		1,176	.....	18	7	2	7/1	1-2	25.00
Salt Lake County General Hospital *	Salt Lake City	P. B. Price	919	1,853	67	38	2	7/1	1	25.00
Bishop DeGoesbriand Hospital *	Burlington, Vt.	A. G. Mackay and A. Gladstone	976	261	9	5	1	.....	1	.....
Mary Fletcher Hospital *	Burlington, Vt.	A. G. Mackay	1,329	1,390	31	21	2	7/1	3	.....
Alexandria Hospital *	Alexandria, Va.	G. L. Fifer	907	.....	21	8	2	7/1	1-2	125.00
University of Virginia Hospital *†	Charlottesville, Va.	E. P. Lehman	2,346	9,298	75	36	6	7/1	1-5	75.00
Chesapeake and Ohio Hospital *	Clifton Forge, Va.	J. M. Emmett	2,963	4,661	28	8	3	7/1	1-2	60.00
De Paul Hospital *	Norfolk, Va.	C. C. Smith	1,252	253	30	18	1	.....	1	.....
Norfolk General Hospital *	Norfolk, Va.	L. Gwathmey	4,734	654	80	39	4	7/1	1-3	75.00
Johnston-Willis Hospital *	Richmond, Va.	F. S. Johns	3,451	.....	24	10	3	7/1	1	100.00
Medical College of Virginia, Hosp. Div.*	Richmond, Va.	I. A. Bigger	2,628	4,203	78	25	9	7/1	1	46.50
Jefferson Hospital *	Roanoke, Va.	H. H. Trout Sr.	2,207	3,920	58	12	4	7/1	1-2	150.00
Doctors Hospital *	Seattle	D. V. Trueblood	819	.....	17	7	1	7/1	1	150.00
King County Hospital *	Seattle	B. P. Mullen	1,881	1,348	72	30	5	7/1	1	125.00
Providence Hospital *	Seattle	R. L. Zech	4,638	51	8	..	2	7/1	1	100.00
Swedish Hospital *	Seattle		1,587	.....	10	7	1	.....	1	.....
Virginia Mason Hospital *	Seattle	J. W. Baker	1,060	.....	18	13	6	.....	1	75.00
Northern Permanente Foundation *	Vancouver, Wash.	E. D. Wiley	1,710[b]	5,153[b]	..	..	2	.....	1	.....
Beckley Hospital	Beckley, W. Va.	J. W. Bolen	2,193	11,554	25	8	2	1/1, 7/1	1-3	150.00
Charleston General Hospital *†	Charleston, W. Va.	J. E. Cannaday	2,536	2,176	34	17	4	7/1	1-3	125.00
Chesapeake and Ohio Hospital *	Huntington, W. Va.	R. J. Wilkinson	1,580	7,847	25	10	2	7/1	1-3	65.00
St. Mary's Hospital *	Huntington, W. Va.	J. H. Steenbergen	2,142	.....	66	16	1	7/1	1	100.00
Laird Memorial Hospital	Montgomery, W. Va.	W. R. Laird	2,454	5,973	43	14	2	7/1	2-3	150.00
St. Joseph Hospital *	Parkersburg, W. Va.	T. L. Harris	679	.....	9	9	1	1/1	2	.....
La Crosse Lutheran Hospital *†	La Crosse, Wis.	S. B. Gundersen	1,895	384	21	13	1	7/1	1	100.00
State of Wisconsin General Hospital *†	Madison, Wis.	E. R. Schmidt	1,835	3,336	95	68	9	7/1	3	25.00
Columbia Hospital *	Milwaukee	F. Raine	2,495	.....	24	15	1	7/1	3	50.00
Milwaukee Children's Hospital †	Milwaukee	A. A. Schaefer	.....	.....	12	8	1	1/1	1	.....
Milwaukee County Hospital *†	Milwaukee	C. F. Conroy	2,164	11,650	81	15	14	Varies	1-3	75.00
Milwaukee Hospital *	Milwaukee	T. S. O'Malley	3,495	.....	33	14	3	.....	3	70.00
Mount Sinai Hospital *	Milwaukee	M. Bornstein	1,317	488	23	7	3	.....	1	.....
St. Joseph's Hospital *	Milwaukee	F. Stratton	5,698	.....	66	17	3	7/1	1-3	75.00
St. Luke's Hospital *†	Milwaukee	H. J. Gramling	946[b]	.....	..	..	1	.....	1	.....
St. Mary's Hospital *	Milwaukee	D. Witte	.....	.....	..	..	1	.....	1	.....
Gorgas Hospital *	Ancon, C. Z.	J. R. Shaeffer	.....	.....	..	..	6	7/1	1	250.00
Queen's Hospital *†	Honolulu, Hawaii		1,874	.....	34	27	3	4/1, 10/1	1-2	.....

Hospitals, 418; Assistant Residencies and Residencies, 2,078

* Numerical and other references will be found on page 1375.

26. THORACIC SURGERY

United States Army.—Residencies available to medical officers, U. S. Army.

Fitzsimons General Hospital ★.....Denver
Walter Reed General Hospital ★.....Washington, D. C.

United States Navy.—Residencies available to medical officers, U. S. Navy.

U. S. Naval Hospital.....Corona, Calif.
U. S. Naval Hospital ★.....Great Lakes, Ill.

Name of Hospital	Location	Chief of Service	Inpatients Treated §	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies §	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Highland-Alameda County Hospital ★	Oakland, Calif.	P. Sampson	.....	.....	..	..	1	7/1	1-3	$195.00
Olive View Sanatorium [4]	Olive View, Calif.	J. Skillen	197	.....	..	..	3	.....	1	303.00
Norwich State Tuberculosis Sanatorium (Uncas-on-Thames)	Norwich, Conn.	W. O. Kelley	(See Pulmonary Diseases)				2	Varies	1	235.00
City of Chicago Municipal Tuberculosis Hospital	Chicago		346	.....	..	..	2	.....	1	.....
Veterans Administration Hospital	Hines, Ill.	J. Head	313	.....	21	5	2	.....	1-3	300.00
Boston Sanatorium	Boston	J. Streider	.....	.....	..	..	1	Varies	1	150.00
University Hospital ★[4]	Ann Arbor, Mich.	J. Alexander	426	1,437	18	7	6	7/1	2	160.00
Herman Kiefer Hospital [4]	Detroit	E. J. O'Brien	(See Pulmonary Diseases)				3	7/1	2+	333.00
Mississippi State Tuberculosis Sanatorium [4]	Sanatorium, Miss.	L. R. Reid	100	506	1	..	1	7/1	2-3	175.00
Barnes Hospital ★	St. Louis	E. A. Graham	415	1,750	39	21	3	.....	1	.....
Berthold S. Pollak Hospital for Chest Diseases	Jersey City, N. J.	B. S. Pollak	109	.....	..	..	1	.....	1	.....
Kings County Hospital ★	Brooklyn	J. Pirundini and H. Maier	.....	416	35	13	2	7/1	1-2	70.00
Edward J. Meyer Memorial Hospital ★[4]	Buffalo	J. D. Stewart	32	.....	6	2	1	7/1	1-3	100.00
Herman M. Biggs Memorial Hospital [4]	Ithaca, N. Y.	R. Douglass	74	.....	..	..	2	.....	1	200.00
Triboro Hospital [4]	Jamaica, N. Y.	D. A. Mulvihill and H. W. Louria	(See Pulmonary Diseases)				6	7/1	1	50.00
Mount Morris Tuberculosis Hospital	Mount Morris, N. Y.		44	.....	..	..	1	.....	1	.....
Bellevue Hosp., Div. I—Columbia Univ. ★[4]	New York City	F. B. Berry	(See Pulmonary Diseases)				4	1/1, 7/1	1½	70.00
Metropolitan Hospital ★[4]	New York City	S. A. Thompson	18	.....	18	3	2	7/1	1	100.00
Veterans Administration Hospital	New York City	H. Conway	240	.....	..	..	4	7/1	1-4	303.33
Homer Folks Tuberculosis Hospital	Oneonta, N. Y.	A. M. Skinner	146	27	1	1	2	10/1	1	25.00
Ray Brook State Tuberculosis Hospital	Ray Brook, N. Y.	J. Gordon	138	.....	..	..	2	Varies	1-2	230.00
Sea View Hospital [4]	Staten Island, N. Y.	L. R. Davidson	243	.....	31	5	7	1/1, 7/1	2	45.00
Veterans Administration Hospital	Oteen, N. C.	J. A. Moore	.....	.....	..	..	1	.....	1	.....
North Carolina Baptist Hospital ★[4]	Winston-Salem, N. C.	H. H. Bradshaw	85	156	13	12	2	.....	1	.....
City Hospital ★[4]	Cleveland	C. H. Lenhart	.....	.....	..	..	1	7/1	1	75.00
University of Oregon Medical School Hospitals and Clinics ★[4]	Portland, Ore.	W. Conklin	213	5,612	12	7	3	7/1	3	75.00
Muirdale Sanatorium	Milwaukee		(See Pulmonary Diseases)				1	.....	1	.....

Hospitals, 27; Assistant Residencies and Residencies, 66

27. UROLOGY

United States Army.—Residencies available to medical officers, U. S. Army.

†Letterman General Hospital ★.....San Francisco
Walter Reed General Hospital ★.....Washington, D. C.
†Madigan General Hospital ★.....Fort Lewis, Wash.

United States Navy.—Residencies available to medical officers, U. S. Navy.

†U. S. Naval Hospital ★.....Bethesda, Md.
†U. S. Naval Hospital ★.....St. Albans, N. Y.
†U. S. Naval Hospital ★.....Philadelphia
†U. S. Naval Hospital ★.....Portsmouth, Va.

Name of Hospital	Location	Chief of Service	Inpatients Treated §	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies §	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Jefferson and Hillman Hospitals ★	Birmingham, Ala.	W. F. Scott	486	4,175	22	6	2	7/1	1	$ 30.00
†California Hospital ★	Los Angeles	G. J. Thomas	674	.....	24	6	1	7/1	3	100.00
Los Angeles County Hospital ★[4]	Los Angeles	J. J. Crane	1,958	7,878	201	71	5	Varies	3	157.20
†Presbyterian Hosp., Olmsted, Memorial ★	Los Angeles		751	.....	19	..	1	9/1	2	150.00
White Memorial Hospital ★	Los Angeles	R. W. Barnes	549	6,050	..	..	3	.....	1-3	135.00
Franklin Hospital ★	San Francisco	F. Hinman	647	.....	17	3	3	7/1	1	200.00
San Francisco Hospital ★[4]	San Francisco		427	.....	32	6	3	7/1	1	200.00
Stanford University Hospitals ★[4]	San Francisco	J. R. Dillon	420	3,875	10	2	3	7/1	1-2	50.00
University of California Hospitals ★[4]	San Francisco	F. Hinman	335	6,002	9	4	1	7/1	1	50.00
†Veterans Administration Hospital	San Francisco		.....	.....	..	..	3	7/1	1-3	275.00
†Santa Clara County Hospital ★	San Jose, Calif.	D. Fagerstrom	250	480	8	6	1	7/1	1-2	185.00
†Veterans Administration Hospital	Van Nuys, Calif.	J. A. Weinberg	289	4,826	8	7	3	1/1, 7/1	1-3	275.00
†Veterans Administration Center	W. Los Angeles, Calif.		.....	.....	..	..	4	7/1	1-3	275.00
†Colorado General Hospital ★	Denver	J. A. Philpott	197	1,296	24	16	1	7/1	1	85.00
Grace-New Haven Community Hospital New Haven Unit ★[4]	New Haven, Conn.	C. Deming	202	.....	7	..	2	7/1	3	40.00
†Waterbury Hospital ★	Waterbury, Conn.	C. H. Neuswanger	435	43	17	4	1	Varies	2	100.00
†Freedmen's Hospital ★	Washington, D. C.	R. F. Jones	250	3,460	38	7	1	7/1	1	150.00
Gallinger Municipal Hospital ★[4]	Washington, D. C.	W. P. Herbst	370	1,053	30	11	2	7/1	1-3	75.00

Numerical and other references will be found on page 1375.

27. UROLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated *	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies *	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
St. Vincent's Hospital *	Jacksonville, Fla.	R. B. McIver	403	.....	29	15	2	7/1	1	125.00
Grady Memorial Hospital *[13]	Atlanta, Ga.	M. K. Bailey	867	5,975	27	4	4	7/1	1	20.00
University Hospital *	Augusta, Ga.	J. R. Rinker	331	563	25	3	1	7/1	1-2	40.00
†Alexian Brothers Hospital *	Chicago	E. F. Hess	283	.....	26	13	1	7/1	1-3	100.00
Cook County Hospital *	Chicago	H. Culver	1,628	2,413	251	10	2	Varies	1-3	.....
†Mercy Hospital *	Chicago	H. E. Landes	610	1,273	10	6	2	1/1	1-3	25.00
Michael Reese Hospital *[4]	Chicago	H. C. Rolnick	484	1,419	..	..	3	.....	1-3	25.00
†Mount Sinai Hospital *	Chicago	H. C. Rolnick	287	480	23	14	1	Varies	1-2	50.00
Presbyterian Hospital *	Chicago	H. L. Kretschmer	967	2,907	19	13	2	1/1	1-3	25.00
St. Luke's Hospital *	Chicago	H. Culver	596	1,551	23	12	2	7/1	1-3	25.00
University of Chicago Clinics *	Chicago	C. B. Huggins	351	6,621	7	5	2	7/1	1-2	25.00
Wesley Memorial Hospital *[4]	Chicago	V. J. O'Conor	695	.....	11	5	1	1/1, 7/1	1-3	25.00
†Decatur and Macon County Hospital	Decatur, Ill.	A. C. Simon	226	5,261	5	1	1	6/1	1-5	100.00
†St. Francis Hospital *[4]	Peoria, Ill.	A. Sprenger	798	179	36	14	1	4/1	1	150.00
Indianapolis City Hospital *	Indianapolis	R. L. Smith	380	2,369	40	15	2	.....	1	.....
†Indiana University Medical Center *	Indianapolis	H. O. Mertz	624	1,924	16	7	2	7/1	1-3	33.33
†Methodist Hospital *	Indianapolis	P. E. McCown	1,061	.....	24	12	1	7/1	1-2	200.00
University Hospitals *[4]	Iowa City	N. G. Alcock	1,740	1,363	83	43	8	7/1	1	40.00
†University of Kansas Hospitals *[4]	Kansas City, Kan.	N. F. Ockerblad	355	1,055	32	9	1	.....	1	.....
†St. Joseph Hospital *	Lexington, Ky.	W. T. Briggs	475	.....	16	3	1	7/1	1-2	90.00
†Veterans Administration Hospital	Louisville, Ky.	M. I. Schwalbe	.....	.....	..	..	1	7/1	1-2	275.00
Charity Hospital of Louisiana *	New Orleans, La.		2,335	12,546	135	37	13	7/1	1-3	25.00
Touro Infirmary *	New Orleans, La.	W. A. Reed	720	2,552	25	9	1	7/1	1	17.50
Johns Hopkins Hospital *	Baltimore	W. W. Scott	1,197	4,224	29	16	3	7/1	1	.....
†Sinai Hospital *	Baltimore	A. E. Goldstein	374	888	25	18	2	7/1	1-5	25.00
U. S. Marine Hospital *	Baltimore	T. M. Burkholder	462	1,224	18	15	1	7/1	1-4	175.00
Beth Israel Hospital *	Boston	E. G. Crabtree	367	1,731	10	4	1	.....	1	.....
Boston City Hospital *[4]	Boston	H. H. Howard	490	8,054	40	6	2	.....	1-2	50.00
Lahey Clinic	Boston	E. E. Ewert	550[b]	9,600[b]	..	..	4	.....	1-3	.....
Massachusetts General Hospital *	Boston	F. H. Colby	434	7,377	27	22	3	7/1	1-3	41.67
Massachusetts Memorial Hospitals *	Boston	S. N. Vose	.....	1,410	10	2	3	.....	1	50.00
Peter Bent Brigham Hospital *	Boston	J. H. Harrison	350[b]	3,000[b]	..	..	2	.....	1	.....
†Veterans Administration Hospital (West Roxbury)	Boston	G. Warren	122	162	2	2	2	6/1	2	275.00
†Veterans Administration Hospital	Framingham, Mass.	E. P. Stone	.....	.....	..	..	2	Varies	2	275.00
University Hospital *[4]	Ann Arbor, Mich.	R. M. Nesbit	1,126	8,171	24	14	6	.....	1	.....
City of Detroit Receiving Hospital *[4]	Detroit	F. Cole	679	2,177	29	10	2	7/15	3	149.67
Grace Hospital *	Detroit	L. W. Hull	952	396	24	6	2	7/1	1-3	75.00
Harper Hospital *[4]	Detroit	F. H. Cole	.....	.....	..	..	3	.....	1	113.00
Henry Ford Hospital *[4]	Detroit	J. K. Ormond	528	12,032	15	8	2	7/1	1-3	200.00
Wayne County General Hospital and Infirmary *[4]	Eloise, Mich.	W. L. Sherman	834	2,155	100	32	2	7/1	1	197.00
Minneapolis General Hospital *	Minneapolis	T. H. Sweetser	202	1,430	38	14	1	1/1, 7/1	1	100.00
†St. Mary's Hospital *	Minneapolis	T. H. Sweetser	428	.....	14	6	1	.....	3	.....
University Hospitals *[4]	Minneapolis	C. D. Creevy	486	1,896	21	13	2	7/1	1-3	100.00
Mayo Foundation	Rochester, Minn.	W. F. Braasch and S. J. Thompson	(See page 1375)				12	.....	1	.....
Anker Hospital *	St. Paul	F. E. B. Foley	312	724	28	22	1	7/1	1	91.50
Charles T. Miller Hospital *	St. Paul	F. E. B. Foley	465	3,303	..	..	1	1/1	1-3	.....
Kansas City General Hospital No. 1 *	Kansas City, Mo.	R. L. Hoffman	404	1,300	31	13	1	7/1	1-2	50.00
Research Hospital *	Kansas City, Mo.	R. L. Hoffman	496	.....	5	2	1	8/1	1	.....
†Barnes Hospital *	St. Louis	D. K. Rose	738	2,191	20	13	3	7/1	1-3	*
Homer G. Phillips Hospital *	St. Louis	R. Deakins	597	1,873	32	8	2	7/1	1	50.00
St. Louis City Hospital *[4]	St. Louis	G. Carroll	535	1,508	71	28	3	7/1	1	86.00
St. Mary's Group of Hospitals *	St. Louis	C. E. Burford	600	2,488	19	14	2	Varies	3	35.00
Atlantic City Hospital *	Atlantic City, N. J.	C. H. de T. Shivers	284	4,708	6	3	1	7/1	1	.....
Bayonne Hospital and Dispensary *	Bayonne, N. J.	S. R. Woodruff	512	285	4	3	1	7/1	1	.....
Jersey City Hospital *	Jersey City, N. J.	E. J. Daly	630	2,855	41	6	2	Varies	1	50.00
Newark City Hospital *	Newark, N. J.	C. R. O'Crowley	850	.....	36	..	2	1/1	1-2	30.00
Albany Hospital *[4]	Albany, N. Y.	J. E. Heslin	761	.....	36	21	2	7/1	1	41.67
Kings County Hospital *	Brooklyn	F. L. Senger	1,791	2,814	104	26	2	7/1	2	70.00
Long Island College Hospital *	Brooklyn	F. L. Senger	619	2,522	19	4	3	7/1	3	25.00
Buffalo General Hospital *	Buffalo	O. J. Oberkircher	482	1,010	11	3	2	7/1	1-3	25.00
Edward J. Meyer Memorial Hospital *[4]	Buffalo	E. M. Watson	414	1,755	56	16	3	7/1	3	100.00
†Millard Fillmore Hospital *	Buffalo	E. L. Brodie	642	.....	15	5	2	.....	1	.....
Queens General Hospital *[4]	Jamaica, N. Y.	F. G. Riley	876	9,646	107	48	3	.....	3	70.00
Bellevue Hospital, Div. II—Cornell Univ. *[4]	New York City	R. S. Hotchkiss	1,167	9,315	37	13	4	7/1	3	45.00
†Beth Israel Hospital *[4]	New York City	S. F. Wilhelm	521	1,613	19	3	3	7/1	3	50.00
Metropolitan Hospital *[4]	New York City	S. Carleton	272	2,977	34	7	1	11/1	1	100.00
Morrisania City Hospital *[4]	New York City	J. Duff	587	2,037	24	7	4	7/1	1	70.00
†Mount Sinai Hospital *	New York City	L. Edelman	.....	4,797	..	..	3	1/1, 7/1	1-3	50.00
New York City Hospital *	New York City	J. H. Morrissey	172	2,330	26	7	2	7/1	1	120.00
New York Hospital *[4]	New York City	O. Lowsley	365	7,434	10	..	6	.....	1	.....
New York Polyclinic Medical School and Hospital *	New York City	J. F. McCarthy	459	.....	14	5	1	7/1	3	25.00
New York Post-Graduate Medical School and Hospital *	New York City	C. G. Bandler	429	3,818	10	1	1	7/1	2	.....

Numerical and other references will be found on page 1375.

27. UROLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated[6]	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies[8]	Beginning of Service (1947)	Length of Service (Years)	Beginning Stipend (Month)
Presbyterian Hospital *[4]	New York City	G. F. Cahill	1,237	8,608	38	..	6	.....	3	41.66
Roosevelt Hospital *	New York City	S. A. Beisler	522	1,786	20	6	2	7/1	1-3	25.00
St. Luke's Hospital *	New York City	G. F. Hoek	569	2,356	17	8	1	Varies	3	50.00
Strong Memorial-Rochester Municipal Hospitals *[4]	Rochester, N. Y.	W. W. Scott	689	7,871	..	..	3	7/1	1-4	41.66
Sea View Hospital [4]	Staten Island, N. Y.	A. Greenberger	107	.....	4	1	2	7/1	1	45.00
Charlotte Memorial Hospital *[4]	Charlotte, N. C.	P. Nowlin	1,305	.....	22	9	1	7/1	1-3	75.00
Duke Hospital *[4]	Durham, N. C.	E. P. Alyea	503	8,590	7	6	3	7/1	1	.....
Watts Hospital *	Durham, N. C.	W. M. Coppridge	131	119	..	..	1	7/1	1-2	75.00
North Carolina Baptist Hospital *[4]	Winston-Salem, N. C.	F. K. Garvey	450	860	14	6	2	.....	1	.....
City Hospital *[4]	Cleveland	H. Trattner	472	3,817	42	..	2	7/1	1-4	60.00
Cleveland Clinic Foundation Hospital	Cleveland	W. E. Lower	954	17,480	27	7	5	7/1	1-3	100.00
University Hospitals *[4]	Cleveland	J. J. Joelson	837	4,940	11	7	1	7/1	1	25.00
†Veterans Administration Hospital	Cleveland	A. M. Barone	.....	.....	..	..	1	Varies	1-3	275.00
Starling-Loving University Hospital *[4]	Columbus, Ohio	W. N. Taylor	624	690	33	23	3	7/1	1-3	50.00
St. Vincent's Hospital *[4]	Toledo, Ohio	L. P. Dolan	639	32	24	4	1	.....	1	.....
†University Hospitals *	Oklahoma City	B. A. Hayes	212	1,973	24	9	1	7/1	1-2	35.00
University of Oregon Medical School Hospitals and Clinics *[4]	Portland, Ore.	J. R. Hand	256	1,717	24	12	3	7/1	3	75.00
†Veterans Administration Hospital	Portland, Ore.	P. B. Potampa	263	940	13	6	1	10/1	3	275.00
†Allentown Hospital *	Allentown, Pa.	W. C. Masonheimer	692	326	13	3	1	.....	2	75.00
†Veterans Administration Hospital	Aspinwall, Pa.	C. A. Kuehn	225	.....	8	2	1	1/1, 7/1	3	.....
St. Vincent's Hospital *	Erie, Pa.	E. Hess	1,170	3,540	25	7	1	6/1	1	50.00
George F. Geisinger Memorial Hospital *	Danville, Pa.	W. I. Buchert	625	6,067	17	12	1	7/1	1	75.00
†Harrisburg Hospital *	Harrisburg, Pa.	S. L. Grossman	596	3,668	47	2	1	1/1, 7/1	1-2	100.00
Graduate Hospital of the Univ. of Pa. *	Philadelphia	J. C. Bridsall	102	2,052	5	1	1	7/1	1-2	.....
†Hahnemann Hospital *	Philadelphia	E. W. Campbell	550	6,691	6	3	1	7/1	2-3	50.00
Hospital of the Univ. of Pennsylvania *	Philadelphia	P. B. Hughes	714	2,308	12	8	2	Varies	2-3	100.00
Jefferson Medical College Hospital *	Philadelphia	D. M. Davis	861	5,062	24	12	3	.....	1	.....
†Lankenau Hospital *	Philadelphia	C. A. W. Uhle	175	648	6	6	1	7/1	1-2	100.00
†Mount Sinai Hospital *[4]	Philadelphia	M. Muschat	282[b]	237[b]	..	..	1	.....	1	.....
Pennsylvania Hospital *	Philadelphia	L. Herman	698	2,237	21	8	2	7/1	1-3	20.00
Presbyterian Hospital *[4,10]	Philadelphia	J. C. Bridsall	329	5,311	..	..	1	.....	1-3	50.00
†Temple University Hospital *[4]	Philadelphia	L. E. McCrae	217	2,163	11	4	1	7/1	3	50.00
Mercy Hospital *[4]	Pittsburgh	E. G. McCague	509	658	10	6	1	.....	1	.....
†University of Pittsburgh Medical Center *	Pittsburgh	J. J. Lee	851	1,150	16	5	3	7/1	1-3	.....
†Roper Hospital *	Charleston, S. C.	J. J. Ravenel	470	822	17	8	3	.....	1	.....
†Veterans Administration Center	Columbia, S. C.	H. Wyman	.....	.....	..	..	4	Varies	1-4	.....
†John Gaston Hospital *	Memphis, Tenn.	T. D. Moore	623	8,004	27	13	4	1/1, 6/1	3	.....
†Veterans Administration Hospital	Memphis, Tenn.	F. M. Jacobs	.....	....	..	..	3	Varies	1-5	.....
†Veterans Administration Hospital	Nashville, Tenn.	H. S. Shelley	.....	.....	..	..	1	7/1	1-3	275.00
Parkland Hospital *	Dallas, Texas	A. I. Folsom	.....	.....	..	..	2	.....	1	50.00
John Sealy Hospital *	Galveston, Texas	R. E. Cone	7,195	72,350	17	7	1	3/1	3	50.00
†Hermann Hospital *	Houston, Texas	C. M. Crigler and G. H. Orr	657	1,021	21	10	2	7/1	3-4	50.00
†Mary Fletcher Hospital *[23]	Burlington, Vt.	W. M. Flagg	355	114	21	6	1	7/1	3	.....
University of Virginia Hospital *	Charlottesville, Va.	S. A. Vest	615	3,718	22	3	4	7/1	1-4	60.00
†Medical College of Virginia, Hosp. Div. *	Richmond, Va.	A. I. Dodson	594	2,495	22	8	3	7/1	1	46.50
†Veterans Administration Hospital	Richmond, Va.	R. C. Bunts	.....	.....	..	..	3	1/1, 7/1	3	275.00
†La Crosse Lutheran Hospital *	La Crosse, Wis.	A. H. Gundersen	231	4	6	2	1	7/1	1	.....
State of Wisconsin General Hospital *	Madison, Wis.	I. R. Sisk	576	.....	27	18	4	7/1	3	25.00
Milwaukee County Hospital *[4]	Milwaukee	R. E. Stockinger	429	1,529	33	..	1	Varies	1-3	75.00
†Veterans Administration Hospital	Milwaukee	J. C. Sargent	189	2,400	10	6	4	Varies	4	275.00

Hospitals, 140; Assistant Residencies and Residencies, 317

Mayo Foundation Fellowships—The Mayo Foundation for Medical Education and Research, Rochester, Minn.; three-year fellowships, beginning quarterly, leading to the degree of M.S or Ph.D. with field named from the University of Minnesota; in Anesthesia, Dermatology and Syphilology, Internal Medicine, Neurology and Psychiatry, Neurological Surgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine, Plastic Surgery, Proctology, Radiology, Surgery, Urology; stipend $1,110 per year, (clinical fellowships including pathology and radiology—tentative estimate, 400). Address applications to The Mayo Foundation, Rochester, Minn.

a. Compensation arranged by medical school and hospital.
b. As reported in previous list.
c. In lieu of maintenance.
d. Residency in epilepsy.
e. Obstetrical training at Herman Kiefer Hospital, Detroit.
f. Training in gynecology at City of Detroit Receiving Hospital.
g. Assignment in psychosomatic medicine also available.
h. Fellowship offered in affiliation with Northwestern University Medical School, St. Luke's Hospital and Wesley Memorial Hospital, Chicago.
j. Outpatient and home delivery service only.
k. Training in gynecology at Barnes Hospital, St. Louis.
m. In affiliation with Cincinnati General Hospital.
½. Approved by the Board as offering satisfactory six months training.
1. Approved by the Board as offering satisfactory one year training.
1½. Approved by the Board as offering satisfactory eighteen months training.
2. Approved by the Board as offering satisfactory two year training.
2½. Approved by the Board as offering satisfactory thirty months training.
3. Approved by the Board as offering satisfactory three year training.
4. Residencies open to women.
5. Clinical data includes psychiatry.
6. Inpatients: Data refers to total inpatients treated in specialty. Obstetrical admissions do not include newborn. In anesthesiology, general residency and pathology total hospital admissions are used.
7. Clinical data includes neurology.
8. Includes fellowships.
9. Affiliated with Northwest Clinic, Minot.
10. Includes acceptable affiliate assignment at Urologic Clinic, Philadelphia.
11. Includes affiliate service at South Bend Medical Laboratory, St. Joseph Hospital, South Bend; Elkhart General Hospital, Elkhart and St. Joseph's Hospital, Mishawaka, Indiana.
12. Represents training acceptable to Board in (1) radiology, (2) roentgenology, (3) therapeutic radiology, (4) diagnostic roentgenology.
13. Affiliated with North Carolina Orthopedic Hospital, Gastonia.
14. Type of training acceptable to Board: A—adult orthopedics; C—children's orthopedics; F—fractures; S—basic sciences.
15. Includes affiliate service at Emory University.
16. Includes assignment at Pima County General Hospital, Tucson.
17. Acceptable affiliations at Norton Memorial Infirmary and Veterans Administration Hospital, Louisville.
18. Included in the affiliated program of the University of Colorado Medical School.
19. Training will also be carried out at DeKalb Public Hospital and St. Mary's Hospital, DeKalb, Ill.
20. Part of three year program offered by Harper, City of Detroit Receiving and Children's Hospitals in affiliation with Wayne University.
21. In affiliation with Johns Hopkins Hospital, Baltimore.
22. Approved for training in syphilology only.
23. Affiliated with Medical School of the University of Vermont, to include assignment at Bishop De Goesbriand Hospital.
24. Affiliated with Free Hospital for Women, Brookline, Mass.
25. In affiliation with Hartford Hospital, Hartford, Conn.
26. In affiliation with Good Samaritan and St. Vincent's Hospitals, Portland.

† Indicates temporary approval.

Numerical and other references will be found on page 1375.

APPROVED MEDICAL SCHOOLS

ALABAMA

Birmingham

Medical College of Alabama.—Established in 1943 as a division of the University of Alabama. Located in Birmingham in 1944. In 1945 assumed title to Jefferson Hospital and Hillman Hospital, Birmingham. The Medical College of Alabama cares for all indigent patients of the county and city, maintenance of which is paid to the university on a per diem basis by the county. In 1943 appropriation included one million dollars for the building of a new medical school which will be erected as early as possible, and temporary quarters are now in the Jefferson-Hillman Hospital. First instruction in the Medical College of Alabama started June 4, 1945, with a junior class and this class was graduated in October, 1946. On October 8, 1945, the School of the Basic Medical Sciences on the University Campus, established in 1920, and its faculty, was absorbed into the new Medical College of Alabama. The medical college is coeducational. Minimum entrance requirements are three years of college work. The accelerated program started June 8, 1942, and discontinued in 1945 with the first freshman class. Tuition is as follows: for legal residents of Alabama $400 per academic year plus incidental fees of $20. Nonresidents of the state are charged an additional $100 each session. The registration for the 1946-1947 session was 157; graduates 21. The last class began for freshmen and sophomores Oct. 7, 1946, and ended June 10, 1947; for juniors Feb. 25, 1946 and ended in October, 1946. The last senior class began Oct. 21, 1946, and ended June 10, 1947. The next freshman session will start Oct. 6, 1947 and will end June 12, 1948. The Dean is Roy R. Kracke, M.D.

ARKANSAS

Little Rock

University of Arkansas School of Medicine, 1209 McAlmont Street.—Organized in 1879 as the Medical Department of Arkansas Industrial University. Present title in 1899. In 1911 the College of Physicians and Surgeons united with it and it became an integral part of the University of Arkansas. The first class was graduated in 1880. Clinical teaching was suspended in 1918 but resumed in 1923. Coeducational since organization. The curriculum covers four sessions of nine months each. At the present time entrance requirements are two years of collegiate work, but three years will be required beginning September, 1948. The B.S. degree is conferred at the end of the second year. An accelerated program, adopted July 1, 1943, involving the admittance and graduation of a class approximately every nine months, was discontinued July 1, 1946. The fees for the four years for residents of Arkansas are $280 a year; nonresidents are charged $225 additional each year. The registration for the 1946-1947 session was 248; graduates 47. The last session began September 30, 1946, and ended June 23, 1947. The next session will begin September 29, 1947, and will end June 21, 1948. The Dean is Benjamin B. Wells, M.D.

CALIFORNIA

Berkeley-San Francisco

University of California Medical School, University Campus, Berkeley; Medical Center, San Francisco 22.—Organized in 1864 as the Toland Medical College. The first class graduated in 1864. In 1873 it became the Medical Department of the University of California. In 1909, by legislative enactment, the College of Medicine of the University of Southern California, at Los Angeles, became a clinical department but was changed to a graduate school in 1914. In 1915 the Hahnemann Medical College of the Pacific was merged and elective chairs in homeopathic materia medica and therapeutics were provided. Coeducational since organization. Three years of collegiate work are required for admission. The work of the first year is given at Berkeley and that of the last three years at San Francisco. The medical course consists of four academic years, each containing two semesters of sixteen weeks each. The fees average $315 per academic year. Nonresidents are charged $250 additional each year. An accelerated program was adopted June 15, 1942 and discontinued in July 1946. The registration for the 1946-1947 session was 284; graduates 68. The last session began Sept. 19, 1946 and ended June 21, 1947. The next class will begin Sept. 18, 1947 and will end June 19, 1948. The Dean is Francis Scott Smyth, M.D., San Francisco.

Loma Linda-Los Angeles

College of Medical Evangelists, Loma Linda; Boyle and Michigan Avenues, Los Angeles 33.—Organized in 1909. The first class graduated in 1914. The laboratory departments are at Loma Linda; the clinical departments at Los Angeles. Coeducational since organization. Three years of collegiate work are required for admission. The freshman, sophomore and junior years consist of a nine month academic session and the senior year will have in addition to the nine month session a six weeks' clinical clerkship during the summer between the junior and senior years. A twelve month internship in an approved hospital is required. An accelerated program was adopted July 1, 1942 and discontinued June 30, 1946. The yearly tuitions including fees are respectively, $705, $694, $712, and $720. The registration for 1946-1947 was 324; graduates 90. The last session the freshman, sophomore and junior students began on September 22, 1946 and ended June 30, June 30, and June 20, 1947 respectively. The senior session began July 1, 1946 and was completed June 22, 1947. The next session will begin September 21, 1947 and will end on June 30, 1948 for the freshmen, June 20, 1948 for the sophomores, June 11 and 13 respectively for the juniors and seniors. The president is Walter E. Macpherson, M.D., Los Angeles. The deans are Harold Shryock, M.D., Loma Linda, and W. F. Norwood, Ph.D., Los Angeles.

Los Angeles

University of Southern California School of Medicine, 3551 University Avenue, Zone 7.—Organized in 1895 as the University of Southern California College of Medicine. First class graduated in 1888. In 1908 it became the Los Angeles Medical Department of the University of California. In 1909 the College of Physicians and Surgeons, established in 1904, became the Medical Department of the University of Southern California. Its activities were suspended in 1920; reorganized in May 1928, under present title. Entrance requirements are approximately 90 semester hours. An internship is required for graduation. Coeducational since organization. Annual fees amount to approximately $600. An accelerated program was adopted June 15, 1942 and discontinued September 16, 1946. The registration for 1946-1947 was 256; graduates 66. The last session began September 16, 1946 and ended June 14, 1947. The next session will begin September 15, 1947 and will end June 12, 1948. The Dean is Burrell O. Raulston, M.D.

Stanford University-San Francisco

Stanford University School of Medicine, University Campus, Stanford University; 2398 Sacramento Street, San Francisco. The main buildings are in San Francisco. The laboratories of anatomy, bacteriology and experimental pathology, chemistry, and physiology are located on the campus at Stanford University, which is thirty miles southeast of San Francisco adjoining the City of Palo Alto. The post office is Stanford University. Organized in 1908, when by agreement the interests of Cooper Medical College were taken over. The first class graduated in 1913. Coeducational since organization. Three years of collegiate work are required for admission. The quarter plan is in operation. An internship is a requirement for graduation. An accelerated program was adopted June 7, 1942 and discontinued June 29, 1946. The average fee for each of the four years is $600. The registration for 1946-1947 was 240; graduates 60. The last session for all classes began Sept. 23, 1946 and ended June 11, 1947. The next session will begin Sept. 29, 1947 and will end June 9, 1948. The Dean is Loren Roscoe Chandler, M.D.

COLORADO

Denver

University of Colorado School of Medicine, 4200 East Ninth Avenue.—Organized in 1883. Classes were graduated in 1885 and in all subsequent years except 1898 and 1899. Denver and Gross College of Medicine was merged Jan. 1, 1911. Coeducational since organization. The acceclerated program was adopted June 15, 1942 and discontinued September 1946. The entrance requirements are three years of collegiate work. The fees average $283 per academic year. Nonresidents are charged $225 additional each year. The registration for 1946-1947 was 241; graduates 55. The last session began September 30, 1946 and ended June 9, 1947. The next session will begin October 6, 1947 and will end June 14, 1948. The Dean is Ward Darley, M.D.

CONNECTICUT

New Haven

Yale University School of Medicine, 333 Cedar Street.—Chartered in 1810 as the Medical Institution of Yale College. Organized in 1812; instruction began in 1813; first class graduated in 1814. A new charter in 1879 changed the name to the Medical Department of Yale College. In 1884, the Connecticut Medical Society surrendered such authority as had been granted by the first charter. In 1887, Yale College became Yale University. Coeducational since 1916. The requirements for admission are three years collegiate work. An accelerated program was adopted June 29, 1942 and discontinued March 28, 1946. The fees average $756 per academic year. The registration for 1946-1947 was 226; graduates 63. The last session for freshmen and sophomores began Sept. 16, 1946 and ended June 11, 1947; the last session for juniors and seniors began Mar. 28, 1946 and ended June 11, 1947. The next session will commence Sept. 22, 1947 and will end June 18, 1948. The Dean is C. N. H. Long, M.D.

DISTRICT OF COLUMBIA

Washington

Georgetown University School of Medicine, 3900 Reservoir Road, N. W., Zone 7.—Organized in 1851. First class graduated in 1852. The degree of Bachelor of Arts or Bachelor of Science or its equivalent from an approved college of arts and sciences is required for admission of non-veterans, but veterans may be admitted with a minimum of 90 semester hours of credit. The fees average $635 per academic year. Registration for 1946-1947 was 366, graduates 89. An accelerated program was adopted June 29, 1942 and discontinued March 17, 1946. The last session for freshmen began Sept. 16, 1946 and ended May 29, 1947; the sophomore class began Sept. 16, 1946 and ended May 26, 1947; the junior class began Sept. 16, 1946 and ended June 11, 1947 and the senior class began Sept. 16, 1946 and ended June 9, 1947. The next session will begin Sept. 22, 1947 and will end May 29, 1948. The Dean is Rev. Paul A. McNally, S.J., Ph.D.

George Washington University School of Medicine, 1335 H Street, N. W.—Organized in 1825 as the Medical Department of Columbian College. Also authorized to use the name "National Medical College." Classes were graduated in 1826 and in all subsequent years except in 1834-1838 and 1861-1863 inclusive. The original title was changed to Medical Department of Columbian University in 1873. In 1903 it absorbed the National University Medical Department. In 1904 by an Act of Congress the title of George Washington University was granted to the Institution. Coeducational since 1884. Sixty semester hours of college work were required for admission for the 1946-1947 and ninety

hours will be required for the session beginning September 1947. The fees average $600 per academic year. An accelerated program was adopted June 8, 1942 and discontinued March 9, 1946. The registration for 1946-1947 was 310; graduates 79. The last session for freshmen, sophomores, and juniors began Sept. 30, 1946 and ended May 24, 1947; the last session for seniors began Sept. 30, 1946 and ended May 28, 1947. The next session for all classes will begin Sept. 15, 1947 and will end May 26, 1948. The Dean is Walter A. Bloedorn, M.D.

Howard University College of Medicine, Fifth and W Streets, N. W.—Chartered in 1867. Organized in 1869. The first class graduated in 1871. Coeducational since organization. Negro students compose a majority of those in attendance. The admission requirements are at least two years of collegiate work. The course covers four years of thirty-three weeks each. An accelerated program was adopted June 12, 1943 and was discontinued June 7, 1946. The fees are, respectively, $352.50; $347.50; $337.50 and $334.50. The registration for 1946-1947 was 267; graduates 62. The last session began September 28, 1946 and ended June 6, 1947. The next session will begin September 27, 1947 and will end June 4, 1948. The dean is Joseph L. Johnson, M.D.

GEORGIA

Atlanta

Emory University School of Medicine, 50 Armstrong St.—Organized in 1854 as the Atlanta Medical College. Classes graduated 1855 to 1861, when it suspended. Reorganized in 1865. A class graduated in 1865 and each subsequent year except 1874. In 1898 it merged with the Southern Medical College (organized in 1878), taking the name of Atlanta College of Physicians and Surgeons. In 1913 it merged with Atlanta School of Medicine (organized in 1905), reassuming the name of Atlanta Medical College. Became the School of Medicine of Emory University in 1915. Three years of collegiate work are required for admission. The course of study is four academic years; 32 weeks each in the 1st and 2nd years; 36 weeks in the 3rd year; 40 weeks in the 4th year. The fees for each of the four academic years are $600. An accelerated program was adopted June 15, 1942 and discontinued in March, 1947. The registration for 1946-1947 was 209; graduates, 55. The last session for freshmen and sophomores began Sept. 24, 1946 and ended June 15, 1947; the last session for juniors began Mar. 25, 1946 and ended Mar. 15, 1947; the last session for seniors began Mar. 25, 1946 and ended Feb. 28, 1947. The next session for freshman and sophomore classes will begin Sept. 18 and 22, 1947 and will end June 5, 1948; the next session for the junior class will begin Sept. 2, 1947 and will end June 5, 1948; the present session for the senior class began Aug. 1, 1947 and will end June 5, 1948. The Dean is R. Hugh Wood, M.D.

Augusta

University of Georgia School of Medicine, University Place.—Organized in 1828 as the Medical Academy of Georgia, the name being changed to the Medical College of Georgia in 1829. After 1873 it was known as the Medical Department of the University of Georgia. On July 1, 1933, the name was changed to the University of Georgia School of Medicine. Property transferred to the University in 1911. Classes were graduated in 1833 and all subsequent years except 1862 and 1863. Coeducation was begun in 1920. Three years of collegiate work are required for admission. An accelerated program was adopted July 1, 1942 and discontinued in April 1946. The fees average $225 per academic year for residents of Georgia, non-residents $525. Only bona fide residents of Georgia admitted (with exception of A. S. T. and V-12 Program students during World War II). The registration for the 1946-1947 session was 283; graduates 66. The 1946-1947 session for the junior and senior classes began April 11, 1946, and ended March 24, 1947; the freshman and sophomore classes began September 9, 1946, and ended June 19, 1947. The present session for the senior class began April 3, 1947, and will end March 22, 1948; the freshman, sophomore and junior classes will begin September 11, 1947, and will end June 19, 1948. The Dean is G. Lombard Kelly, M.D.

ILLINOIS

Chicago

Loyola University School of Medicine, 706 South Wolcott Avenue—Organized in 1915 by acquisition of Bennett Medical College which had been organized in 1869. Facilities enlarged by the acquisition of Chicago College of Medicine and Surgery, faculties in basic sciences put on full time basis and present title assumed in 1917. Operated as an organic part of Loyola University. Coeducational since organization. Ninety semester hours of collegiate work are required for admission. The fees for the academic year beginning September 22, 1947 will be $600.00. An accelerated program was adopted July 6, 1942 and discontinued October 1, 1945. The registration for 1946-1947 was 286, graduates 76. The last session for freshmen and sophomores began Sept. 30, 1946 and ended June 28, 1947; juniors began April 29, 1946 and ended March 29, 1947; the session for seniors began April 29, 1946 and ended February 8, 1947. The present session for seniors began April 8, 1947 and will end March 23, 1948. The next session for freshmen, sophomores and juniors will begin September 22, 1947 and will end June 26, 1948. The Dean is James J. Smith, M.D.

Northwestern University Medical School, 303 East Chicago Avenue.—Organized in 1859 as the Medical Department of Lind University. First class graduated in 1860. In 1864 it became independent as the Chicago Medical College. It united with Northwestern University in 1869 but retained the name of Chicago Medical College until 1891, when the present title was taken. Became an integral part of Northwestern University in 1905. Coeducational since 1926. The requirement for admission is 85 semester hours of collegiate work. The B.S. in medicine degree may be conferred before the end of the senior year. A hospital internship is required for graduation. An accelerated program was adopted June 17, 1942 and discontinued July 1, 1946. The total fees are $500 each year. The registration for 1946-1947 was 517; graduates, 156. The last session began for freshmen and sophomores September 27, 1946 and ended June 14, 1947. Juniors and seniors began March 27, 1946 and ended in March 1947. The next session will begin Sept. 26, 1947 and will end June 12, 1948. The Dean is J. Roscoe Miller, M.D.

University of Chicago, The School of Medicine, Fifty-Eighth Street and Ellis Avenue.—Organized in 1924, as a part of the Ogden Graduate School of Science of the University of Chicago. In 1932, when the University of Chicago reorganized its departments, the medical departments were included in the Division of Biological Sciences. The work the first two years in the medical courses has been given on the University Quadrangles since 1899; but the last two years were offered only at Rush Medical College which was affiliated with the university until 1927 when actual work in the clinical departments on the campus began. After that time, candidates for the degree of Doctor of Medicine could take the work of the first two years on the campus and the work of the third and fourth years either on the campus or at the Rush Medical College. In June 1940 Rush Medical College became affiliated with the University of Illinois College of Medicine. All undergraduate instruction is now given only on the campus of the University of Chicago. The requirements for admission are 90 semester hours of collegiate work. The B.S. degree may be obtained during the second year. The curriculum covers twelve quarters of work. Sixty-five students are admitted to the first year class each year. The tuition fee averages $600. The registration for 1946-1947 was 230; graduates, 62. Quarters begin in March, June, September and December of each year. All correspondence relating to general policies should be addressed to A. C. Bachmeyer, M.D., Associate Dean of the Biology Division, and that pertaining to student affairs to F. J. Mullin, Ph.D., Dean of Students.

University of Illinois College of Medicine, 1853 West Polk Street, Zone 12.—Organized in 1882 as the College of Physicians and Surgeons. The first class graduated in 1883. It became the Medical Department of the University of Illinois by affiliation in 1897. Relationship with the university was canceled in June 1912, and was restored in March 1913, when the present title was assumed. The staff of the Rush Medical College was incorporated in the University of Illinois College of Medicine in 1942 and at the same time Presbyterian Hospital, Chicago, became a teaching unit of the university. Coeducational since 1898. Three years of collegiate work are required for admission. The B.S. in medicine degree may be conferred at the end of the second year. An accelerated program was adopted June 15, 1942 and discontinued June 1946. The fees for residents of Illinois average $291 per academic year; non-residents pay an additional fee of $150. The registration for the 1946-1947 session was 635; graduates 161. The last session began Sept. 30, 1946 and ended June 20, 1947. The next session will begin Sept. 30, 1947 and will end June 19, 1948. The Dean is John B. Youmans, M.D.

INDIANA

Bloomington-Indianapolis

Indiana University School of Medicine, Bloomington, 1040 West Michigan Street, Indianapolis.—Organized in 1903 but did not give all the work of the first two years of the medical course until 1905. In 1907 by union with the State College of Physicians and Surgeons, the complete course in medicine was offered. In 1908 the Indiana Medical College, which was formed in 1905 by the merger of the Medical College of Indiana (organized in 1878), the Central College of Physicians and Surgeons (organized in 1879), and the Fort Wayne College of Medicine (organized in 1879) merged into it. The first class was graduated in 1908. Coeducational since organization. The B.S. degree in anatomy and physiology is conferred. Three years of college work are required for admission. The work of the first two semesters is given at Bloomington; the remainder of the work at Indianapolis. An accelerated program was adopted May 12, 1942 and discontinued April 23, 1946. Regular fee for two semesters of work is $221 for residents of Indiana and $426 for nonresidents. The registration for the 1946-1947 session was 396; graduates 98. The last session for sophomores, juniors and seniors began Sept. 23, 1946 and ended June 11, 1947. Freshmen began Oct. 18, 1946 and ended June 11, 1947. The next session will begin Sept. 22, 1947 and will end June 10, 1948. The Dean is John D. Van Nuys, M.D., Indianapolis.

IOWA

Iowa City

State University of Iowa College of Medicine, University Campus.—Organized in 1869. First session began in 1870. First class graduated in 1871. Absorbed Drake University College of Medicine in 1913. Coeducational since 1870. Three years of collegiate work are required for admission. The B.A. degree in the combined course of liberal arts and medicine is conferred. An accelerated program was adopted May 11, 1942 and discontinued June 15, 1946. The tuition fee is $230 each year for residents of Iowa and $490 for nonresidents. The registration for 1946-1947 was 291; graduates 74. The last session began for juniors and seniors April 1, 1946 and ended March 15, 1947 and for freshmen and sophomores the last session began September 23, 1946 and ended June 6, 1947. The present session for seniors began on March 24, 1947 and will end on March 13, 1948. The next session for freshmen, sophomores, and juniors will begin September 22, 1947 and will end on June 5, 1948. The Dean is Ewen Murchison MacEwen, M.D.

KANSAS

Lawrence-Kansas City

University of Kansas School of Medicine, Lawrence; 39th Street and Rainbow Boulevard, Kansas City.—Organized in 1880. It offered only the first two years of the medical course until 1905, when it merged

with the Kansas City (Mo.) Medical College, founded in 1869, the College of Physicians and Surgeons, founded in 1894, and the Medico-Chirurgical College, founded in 1897. Absorbed Kansas Medical College of Topeka in 1913. The first class graduated in 1906. The clinical courses are given in Kansas City. At present the first year and one-half of the medical course is given on the University campus at Lawrence, Kansas. The class is transferred to the Kansas City, Kansas campus in the middle of the year where the balance of the course is given. Coeducational since 1880. The requirement for admission is three years of collegiate work. An accelerated program was adopted in June 1942 and discontinued June 21, 1946. The annual fees average $200 per year at Lawrence Division and $300 per year at Kansas City Division. The nonresident fees are $600 per year at the Kansas City Division. The registration for 1946-1947 was 287; graduates 73. The last session for junior and senior classes began March 18, 1946 and ended March 22, 1947 with a required "elective trimester" from March 24 to June 14, 1947. The freshman and sophomore classes began September 26, 1946 and ended June 14, 1947. The next session will begin September 17, 1947 and will end June 3, 1948. The Dean is Harry R. Wahl, M.D., Kansas City.

KENTUCKY

Louisville

University of Louisville School of Medicine, 101 West Chestnut Street, Zone 2.—Organized in 1837 as Louisville Medical Institute. The first class graduated in 1838, and a class graduated each subsequent year except 1863. In 1846 the name was changed to University of Louisville Medical Department. In 1907 it absorbed the Kentucky University Medical Department; in 1908, the Louisville Medical College, the Hospital College of Medicine and the Kentucky School of Medicine. In 1922 it changed its name to the University of Louisville School of Medicine. Coeducational since organization. Two years of collegiate work are the minimum requirements for admission. Preference is given applicants with a degree or three college years leading to a degree. An accelerated program was adopted July 1, 1942 and discontinued in the fall of 1947. Fees are $450 for residents of Louisville and Jefferson County and $550 for nonresidents, per school year. The registration for 1946 was 332; graduates 87. The last session began on April 1, 1946 and ended December 21, 1946. The present session began on Jan. 6, 1947 and will end on September 20, 1947. The subsequent session will begin on Sept. 29, 1947, and will end on June 15, 1948. The Dean is John Walker Moore, M.D.

LOUISIANA

New Orleans

Louisiana State University School of Medicine, 1542 Tulane Avenue, Zone 13.—Organized January 1931 as Louisiana State University Medical Center. Present title in 1939. Coeducational. First session October 1931, with students of first and third year. Course covers four sessions of not less than 32 weeks each. A minimum of three years collegiate work is required for admission. An accelerated program was adopted June 25, 1942 and discontinued May 25, 1946. Total fees, $123 each year for residents of Louisiana; additional tuition of $400 each year for nonresidents. The registration for 1946-1947 was 313; graduates 75. The last session began June 10, 1946 for junior and senior students and ended March 8, 1947. Freshman and sophomore classes began Sept. 9, 1946 and ended May 31, 1947. The present session began on April 9, 1947 for senior classes and will end May 22, 1948. Freshman, sophomore and junior classes will begin Sept. 4, 1947 and will end June 5, 1948. The Dean is Vernon W. Lippard, M.D.

Tulane University of Louisiana School of Medicine, 1430 Tulane Avenue.—Organized in 1834 as the Medical College of Louisiana. Classes were graduated in 1835 and in all subsequent years except 1863-1865, inclusive. It became the Medical Department of the Tulane University of Louisiana in 1884. Present title in 1913. Coeducational since 1915. A minimum of three years of collegiate work is required for admission. An accelerated program was adopted July 1, 1943 and discontinued June 1, 1946. Total fees average $550 per academic year. The registration for the 1946-1947 session was 466; graduates 125. The last session began on Sept. 3, 1946 and ended June 11, 1947. The next session will begin Sept. 2, 1947 and will end June 2, 1948. The Dean is Maxwell E. Lapham, M.D.

MARYLAND

Baltimore

Johns Hopkins University School of Medicine, 710 North Washington Street.—The nucleus of a Medical Faculty was constituted in 1883. Systematic postgraduate instruction in pathology and bacteriology was begun in 1886. School was fully organized and opened in 1893. The first class graduated in 1897. Coeducational since organization. The requirement for admission is a college degree. The course extends over four years of eight and one-half months each. An accelerated program was adopted June 1, 1942 and discontinued March 19, 1946. The fees average $617 per academic year. The registration for 1946-1947 was 299; graduates 79. The last session began on Sept. 30, 1946 and ended June 10, 1947. The next session will begin on Sept. 29, 1947 and will end June 8, 1948. The Dean is Alan M. Chesney, M.D.

University of Maryland School of Medicine and College of Physicians and Surgeons, Lombard and Greene Streets, Zone 1.—Organized in 1807 as the College of Medicine of Maryland. The first class graduated in 1810. In 1812 it became the University of Maryland School of Medicine. Baltimore Medical College was merged with it in 1913. In 1915 the College of Physicians and Surgeons of Baltimore was merged and the present name assumed. Coeducational since 1918. Three years of college work is required for admission. An accelerated program was adopted June 25, 1942 and discontinued March 22, 1946. The tuition fees average $513.00 for residents of the state; for nonresidents $150 additional. The registration for 1946-1947 was 334; graduates 97. The last session began September 5, 1946 and ended June 7, 1947. The next session will begin September 18, 1947, and will end June 5, 1948. The Acting Dean is H. Boyd Wylie, M.D.

MASSACHUSETTS

Boston

Boston University School of Medicine, 80 East Concord Street.—Organized in 1873 as a homeopathic institution. In 1874 the New England Female Medical College, founded in 1848, was merged into it. The first class was graduated in 1874. Became nonsectarian in 1918. Coeducational since organization. Applicants are required to present a minimum of three years of premedical work. An accelerated program was adopted June 30, 1942 and discontinued in March 1946. Total fees average $575 per year. The registration for 1946-1947 was 244; graduates 57. The last session for freshmen, sophomores and juniors began Sept. 19, 1946 and ended June 7, 1947. The last senior class began June 3, 1946 and ended May 26, 1947. The present senior class began June 16, 1947 and will end June 7, 1948. All other classes will be enrolled Sept. 15, 1947 and the session will end June 5, 1948. The Dean is James M. Faulkner, M.D.

Harvard Medical School, 25 Shattuck Street, Zone 15.—Organized in 1782. The first class graduated in 1788. Two years of collegiate work are required for admission. An accelerated program was adopted July 1, 1942 and discontinued in June 1947. The fees average $610. The registration for 1946-1947 was 490; graduates 131. The present session began April 1, 1946 for juniors and seniors, and Sept. 23, 1946 for freshmen and sophomores and ended on June 5, 1947 for all four classes. The next academic year will begin Sept. 22, 1947 and will end June 10, 1948. The Dean is C. Sidney Burwell, M.D.

Tufts College Medical School, 416 Huntington Avenue.—Organized in 1893 as the Medical Department of Tufts College. The first class graduated in 1894. Coeducational since 1894. A bachelor's degree is required for admission. Enrolment is generally limited to residents of the New England states. The course covers four years. An accelerated program was adopted June 15, 1942 and discontinued in March 1946. The total fees for each of the four years, respectively, are $610, $605, $605, $615. The registration for 1946-1947 was 400; graduates 103. The last session began for freshmen, sophomores and juniors Sept. 25, 1946; for seniors April 8, 1946 and all classes ended June 15, 1947. The present session began for the seniors on June 9, 1947 and for the other classes will begin Sept. 24, 1947 and ends June 20, 1948. The Dean is Dwight O'Hara, M.D.

MICHIGAN

Ann Arbor

University of Michigan Medical School.—Organized in 1850 as the University of Michigan Department of Medicine and Surgery. The first class graduated in 1851. Present title assumed in 1915. Coeducational since 1870. The entrance requirements are ninety semester hours. An accelerated program was adopted June 15, 1942 and discontinued Sept. 23, 1946. The fees average $280 per academic year; for nonresidents $450 a year. The registration for 1946-1947 session was 500; graduates 140. The last session for seniors began Feb. 23, 1946 and ended Dec. 14, 1946; freshmen, sophomores and juniors began Sept. 23, 1946 and ended June 10, 1947. The next session will begin Sept. 22, 1947 and will end June 12, 1948. The Dean is Albert C. Furstenberg, M.D.

Detroit

Wayne University College of Medicine, 1516 St. Antoine Street.—Organized as the Detroit College of Medicine in 1885 by consolidation of the Detroit Medical College (organized in 1868) and the Michigan College of Medicine (organized in 1879). Reorganized with the title of Detroit College of Medicine and Surgery in 1913. The first class graduated in 1869. In 1918 it became a municipal institution under the control of the Detroit Board of Education. In 1934 the name was changed by action of the Detroit Board of Education to Wayne University College of Medicine, as a part of the program of consolidation of the Detroit city colleges into a university system. Coeducational since 1917. Entrance requirement is 90 semester hours from an accredited college or university. An accelerated program was adopted June 29, 1942 and discontinued June 14, 1947. Until further notice, enrolment is limited to residents of the state of Michigan. The fees average $525 for the school year. The registration for 1946-1947 was 230; graduates 62. The last session began July 8, 1946 and ended June 14, 1947. The next session will begin Sept. 15, 1947 and will end June 12, 1948. The Dean is Hardy A. Kemp, M.D.

MINNESOTA

Minneapolis

University of Minnesota Medical School, Zone 14.—Organized in 1883 as the University of Minnesota College of Medicine and Surgery and reorganized in 1888 by absorption of the St. Paul Medical College and Minnesota Hospital College. The first class graduated in 1889. In 1908 the Minneapolis College of Physicians and Surgeons, organized in 1883, was merged. In 1909 the Homeopathic College of Medicine and Surgery was merged. Present title in 1913. Coeducational since organization. An accelerated program was adopted June 17, 1942 and will be discontinued in the fall of 1947. The entrance requirements are three years of university work. Students are required to meet the requirements for a degree of B.S. or B.A. before receiving the degree of Bachelor of Medicine (M.B.), which is granted at the end of the course. The M.D. degree is conferred after a year of intern work, of advanced laboratory work, or of public health work has been completed. Total fees are $231

per academic year for residents and $450 for nonresidents. The registration for 1947 was 356; graduates 109. The present session began Jan. 6, 1947 and will end Sept. 12, 1947. The next session will begin Sept. 29, 1947 and will end June 12, 1948. The Dean is Harold S. Diehl, M.D.

MISSOURI

St. Louis

St. Louis University School of Medicine, 1402 South Grand Boulevard, Zone 4.—Organized in 1901 as the Marion-Sims-Beaumont Medical College by union of Marion-Sims Medical College, organized in 1890, and Beaumont Hospital Medical College, organized in 1886. First class graduated in 1902. It became the Medical School of St. Louis University in 1903. The completion of three years of college study is the minimum admission requirement but students presenting meritorious credits in excess of the minimum are accepted by preference. An accelerated program was adopted June 15, 1942 and discontinued March 16, 1946. The fees average $611 per academic year. The registration for 1946-1947 was 454; graduates 130. The last session began Sept. 17, 1946 and ended June 1, 1947. The next session will begin Sept. 16, 1947 and will end June 1, 1948. The Dean is Alphonse M. Schwitalla, S.J., Ph.D.

Washington University School of Medicine, Kingshighway and Euclid Avenue, Zone 10.—Organized in 1842 as the Medical Department of St. Louis University. The first class graduated in 1843. In 1855 it was chartered as an independent institution under the name of St. Louis Medical College. In 1891 it became the Medical Department of Washington University. In 1899 it absorbed the Missouri Medical College. Coeducational since 1918. Three years of college work is required for admission. The B.S. degree in medicine is conferred at the end of the third or fourth year. An accelerated program was adopted June 15, 1942 and discontinued March 23, 1946. The fees average $601. The registration for 1946-1947 was 367; graduates 97. The last session for juniors and seniors began on April 1, 1946 and ended June 12, 1947. The session for freshmen and sophomores began Sept. 16, 1946 and ended June 12, 1947. The next session will begin on Sept. 22, 1947 and will end in June 1948. The Dean is Robert A. Moore, M.D.

NEBRASKA

Omaha

Creighton University School of Medicine, 306 North Fourteenth Street, Zone 2.—Organized in 1892 as the John A. Creighton Medical College. The first class graduated in 1893. Present title in 1921. Coeducational since organization. Ninety semester hours of collegiate work are required for admission. An accelerated program was adopted July 7, 1942 and discontinued March 18, 1946. The tuition fees average $574 per academic year. The registration for 1946-1947 was 234; graduates 55. The last session began Sept. 27, 1946 and ended June 5, 1947. The next session will begin Sept. 26, 1947 and will end June 3, 1948. The Dean is Charles M. Wilhelmj, M.D.

University of Nebraska College of Medicine, Forty-Second Street and Dewey Avenue, Zone 5.—Organized in 1881 as the Omaha Medical College. The first class graduated in 1882. It became the Medical Department of Omaha University in 1891. In 1902 it affiliated with the University of Nebraska, with the present title. The instruction of the first two years was given at Lincoln and of the last two at Omaha until 1913, when the work of all four years was transferred to Omaha. Coeducational since 1882. Three years of college work are required for admission. The B.S. degree in medicine is conferred at the end of the second year. An accelerated program was adopted June 12, 1942 and discontinued in March 1946. The fees average $320 per academic year. The registration for 1946-1947 was 314; graduates 77. The last session for juniors and seniors began April 1, 1946 and ended March 22, 1947. The last session for freshmen and sophomores began Sept. 13, 1946 and ended June 7, 1947. The present session for seniors began March 26, 1947 and will end March 20, 1948. The next session for freshmen, sophomores and juniors will begin Sept. 19, 1947 and will end June 5, 1948. The Dean is Harold C. Lueth, M.D.

NEW YORK

Albany

Albany Medical College, 47 New Scotland Avenue.—Organized in 1838. The first class graduated in 1839. It became the Medical Department of Union University in 1873. In 1915 Union University assumed educational control. Coeducational since 1915. The requirement for admission is three years of college work. An accelerated program was adopted July 6, 1942 and discontinued in July 1946. The fees average $632 per academic year. The registration for 1946-1947 was 183; graduates 43. The last session began for freshmen Sept. 30, 1946 and ended June 21, 1947, sophomore and juniors March 25, 1946 and ended March 22, 1947 and April 5 respectively and seniors began April 1, 1946 and ended May 31, 1947. The present senior class began June 2, 1947 and will end May 31, 1948 and the juniors began April 7, 1947 and will end April 2, 1948. The next session will begin September 29, 1947 and will end June 10, 1948 for freshmen and sophomores. The Dean is R. S. Cunningham, M.D.

Brooklyn

Long Island College of Medicine, 350 Henry Street, Zone 2.—Chartered in 1930, was originally organized in 1858 as the Long Island College Hospital. From the collegiate department the first class graduated in 1860 and the last class in 1930. The first class of the Long Island College of Medicine was graduated in 1931. It is coeducational. Three years of collegiate work, including specified courses, are required for admission. An accelerated program was adopted July 6, 1942 and discontinued in March 1946. The fees are $665 per academic year. The registration for 1946-1947 was 398; graduates 95. The last session for juniors and seniors began April 1, 1946 and ended for juniors April 12, 1947, for seniors Feb. 15, 1947. The last session for freshmen and sophomores began on Sept. 23, 1946 and ended on June 14, 1947. The next session begins for freshmen, sophomores and juniors on Sept. 22, 1947 and ends June 12, 1948; for seniors Sept. 15, 1947 and will end June 10, 1948. The President and Dean is Jean A. Curran, M.D.

Buffalo

University of Buffalo School of Medicine, 24 High Street.—Organized in 1846. The first class graduated in 1847. It absorbed the Medical Department of Niagara University in 1898. Coeducational since organization. The minimum requirement for admission is three years of collegiate work including certain prescribed science subjects. An accelerated program was adopted July 6, 1942 and discontinued in June 1946. The fees for the entire course are $2,000. The registration for 1946-1947 was 276; graduates 69. The last session began on September 30, 1946 and ended June 21, 1947. The next session will begin September 22, 1947 and will end June 19, 1948. The Dean is Stockton Kimball, M.D.

New York

Columbia University College of Physicians and Surgeons, 630 West One Hundred and Sixty-Eighth Street.—The medical faculty of Columbia College, then known as King's College, was organized in 1767. Instruction was interrupted by the War of the Revolution. The faculty was reestablished in 1792 and merged in 1814 with the College of Physicians and Surgeons, which had received an independent charter in 1807. In 1860 the College of Physicians and Surgeons became the Medical Department of Columbia College. This merger became permanent by legislative enactment in 1891. Columbia College became Columbia University in 1896. The medical school has been coeducational since 1917. Three years of collegiate work are required for admission. An accelerated program was adopted July 7, 1942 and discontinued March 1946. Fees average $630 per academic year. The registration for 1946-1947 was 442; graduates 113. The last session began on March 28, 1946 for juniors and seniors and ended on June 3, 1947. The last session for freshmen and sophomores began on Sept. 12, 1946 and ended June 3, 1947. The present session began on June 9, 1947 and June 2, 1947 respectively, for the juniors and seniors and will end June 11, 1948, and will begin on Sept. 11, 1947 for the freshmen and sophomores and will end June 1, 1948. The Dean is Willard C. Rappleye, M.D.

Cornell University Medical College, 1300 York Avenue.—Organized in 1898. Coeducational since organization. First year teaching was given formerly to approximately one third of the class at Ithaca but in 1938 this division was discontinued and all instruction is now in New York City. All students admitted are from approved colleges for premedical training. The requirement for admission is three years of college work. The fees average $725 per year. An accelerated program was adopted July 8, 1942 and discontinued in June 1946. The registration for 1946-1947 was 322; graduates 83. The last session began for juniors and seniors April 4, 1946 and ended March 28, 1947. The freshman and sophomore classes began September 26, 1946 and ended June 19, 1947. The present senior class began March 31, 1947 and will end March 26, 1948. The next session for freshmen, sophomores and juniors will begin September 24, 1947 and will end June 17, 1948. The Dean is Joseph C. Hinsey, Ph.D.

New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street.—Organized in 1858. Incorporated in 1860 as the Homeopathic Medical College of the State of New York. The title New York Homeopathic Medical College was assumed in 1869; the title New York Homeopathic Medical College and Hospital in 1887; the title New York Homeopathic Medical College and Flower Hospital in 1908; the title New York Medical College and Flower Hospital in 1936; the present title of New York Medical College, Flower and Fifth Avenue Hospitals, June 22, 1938. The first class graduated in 1861. Coeducational since 1919. Three years of college work are the minimum requirements; degree preferred. An accelerated program was adopted July 1, 1942 and discontinued September 1946. The fees average $664 per academic year. The registration for 1946-1947 was 458; graduates 112. The last session began September 9, 1946 and ended June 11, 1947. The next session will begin September 15, 1947, and will end June 9, 1948. The President and Dean is J. A. W. Hetrick, M.D.

New York University College of Medicine, 477 First Avenue, Zone 16.—The Medical Department of New York University (then called the University of the City of New York) was organized in 1841 as the University Medical College. In 1898 it united with the Bellevue Hospital Medical College, organized in 1861, under the name of University and Bellevue Hospital Medical College. In 1935 the name was changed to New York University College of Medicine. Coeducational since 1919. Entrance requirements give preference to those who have completed not less than three full years in an approved college of arts and sciences. An accelerated program was adopted June 1, 1942 and discontinued April 1, 1946. The fees average $650 per academic session. The registration for 1946-1947 was 486; graduates 120. The last session began September 23, 1946 for freshmen and sophomores and ended May 24, 1947. Juniors and seniors began April 8, 1946 and ended May 29 and June 11, 1947 respectively. The next session for all classes will begin September 22, 1947 and will end May 28, 1948. The Dean is Currier McEwen, M.D.

Rochester

University of Rochester School of Medicine and Dentistry, 260 Crittendon Boulevard, Zone 7.—Organized in 1925 as the Medical Department of the University of Rochester. Coeducational since organization. Three years of collegiate work are required for admission, except for veterans, who may be admitted with two years of collegiate work.

An accelerated program was adopted on July 6, 1942 and discontinued in June 1946. The fees are $600 per academic year. The registration for 1946-1947 was 269; graduates 66. The last session for juniors and seniors began March 25, 1946 and ended March 15, 1947. The session for freshmen and sophomores began September 16, 1946 and ended June 14, 1947. The present session began on March 17, 1947 for seniors and will end on March 27, 1948. The next session for freshmen, sophomores and juniors will begin on September 22, 1947 and will end on June 19, 1948. The Dean is George H. Whipple, M.D.

Syracuse

Syracuse University College of Medicine, 766 Irving Avenue, Zone 10.—Organized in 1872, when the Geneva Medical College, chartered in 1834, was removed to Syracuse, under the title "The College of Physicians and Surgeons of Syracuse University." Present title assumed in 1875, when a compulsory three year graded course was established. The first class graduated in 1873 and a class graduated each subsequent year. In 1889 the amalgamation with the university was made complete. Course extended to four years in 1896. Coeducational since organization. Three years of a recognized college course are required for admission. An accelerated program was adopted July 9, 1942 and discontinued July 1, 1946. The fees average $675 per academic year. The registration for 1946-1947 was 182; graduates 37. The last session began Sept. 2, 1946 and ended June 2, 1947. The next session for all classes will begin approximately Sept. 8, 1947 and will end June 14, 1948. The Dean is H. G. Weiskotten, M.D.

NORTH CAROLINA

Durham

Duke University School of Medicine.—Organized in 1930. The first class was admitted Oct. 1, 1930. Coeducational. The premedical requirement is three years of college work. The academic year consists of two semesters in the first year and three quarters each in the sophomore, junior and senior years. There is no summer quarter between the first and second year, but in the two clinical years the subjects of the autumn, winter and spring terms are repeated in the summer quarter. An accelerated program was adopted July 6, 1942 and starting with the summer quarter of 1946 this accelerated schedule will be optional, the students may take the two semesters of their first year, and three quarters in each of their subsequent years, and receive their certificates in four calendar years, or if they receive permission from the Curriculum Committee they may at the end of their second year take the clinical quarters given during the summers and receive their certificates in three and one quarter calendar years. The B.S. degree in medicine may be conferred for special work after six quarters. Students are urged to spend three years in hospital or laboratory work after graduation and must give assurance satisfactory to the executive committee that they will spend at least two years. Active duty with the Army, Navy or Public Health Service can replace the second year. The fees are $600 for each year of three quarters. The registration for 1946-1947 was 269; graduates 67. During 1947 the quarters begin January 6, March 31, July 7, October 6 and end March 22, June 14, September 20 and December 20. The next freshman class will be enrolled Oct. 6, 1947 and will end June 12, 1948. The Dean is Wilburt C. Davison, M.D.

Winston-Salem

Bowman Gray School of Medicine of Wake Forest College, Zone 7.—Organized in 1902 at Wake Forest as a school offering only the first two years of the curriculum. In 1941 the school was moved to Winston-Salem and expanded to a complete four year medical school under its present name. Coeducational. Ninety semester hours of college work are required for admission. An accelerated program was adopted June 29, 1942 and discontinued in June 1946. Clinical departments operate four quarters in the year, thereby making it possible for the student to complete the work for the degree of Doctor of Medicine six months short of the traditional four years. Students are encouraged during the junior and senior years to take one quarter out of each year, however, for research, for study elsewhere, or for earning money to help defray the expenses of their education. Tuition is $450 per school year. The registration for 1946-1947 was 172; graduates 38. The last session for the freshman class began September 25, 1946, sophomores September 30, 1946, juniors and seniors March 27, 1946 and ended for freshmen and sophomores June 7, 1947, for juniors March 15, 1947 and for seniors December 14, 1946. The present senior class began March 24, 1947 and will end December 13, 1947, juniors began July 7, 1947 and will end March 20, 1948. The next freshman and sophomore class will begin Sept. 29, 1947 and will end June 12, 1948. The Dean is C. C. Carpenter, M.D.

OHIO

Cincinnati

University of Cincinnati College of Medicine, Eden and Bethesda Avenues.—Organized in 1909 by the union of the Medical College of Ohio (founded in 1819) with the Miami Medical College (founded in 1852). The Medical College of Ohio became the Medical Department of the University of Cincinnati in 1896. Under a similar agreement, March 2, 1909, the Miami Medical College also merged with the University when the title of Ohio-Miami Medical College of the University of Cincinnati was taken. Present title assumed in 1915. Coeducational since organization. Liberal arts students of the University of Cincinnati may enroll for the seven year combined liberal arts and medical program. The B.S. degree is granted on the joint recommendation of the faculties of the College of Liberal Arts and Medicine at the end of the first medical year. An accelerated program was adopted June 29, 1942; and discontinued in April 1946. Tuition is as follows: for legal residents of Cincinnati $500 a year plus breakage fees ($50 additional for those not legal residents). The registration for 1946-1947 was 329; graduates 82. The last session for freshmen and sophomores began Sept. 20, 1946, and ended May 31, 1947. The session for juniors and seniors began March 4, 1946, and ended February 1, 1947. The next session for the freshmen, sophomore and junior classes will begin Sept. 22, 1947, and will end May 29, 1948. The present session for the senior class began February 4, 1947, and will end in February of 1948. The Dean is Stanley Dorst, M.D.

Cleveland

Western Reserve University School of Medicine, 2109 Adelbert Road, Zone 6.—Organized in 1843 as the Cleveland Medical College in cooperation with Western Reserve College. The first class graduated in 1844. The school assumed the present title in 1881. In 1910 the Cleveland College of Physicians and Surgeons was merged. Coeducational since 1919. The curriculum covers four scholastic years of 38 to 40 weeks each. Students are required to have three years of college work for admission. The fees average $600 per academic year. An accelerated program was adopted June 22, 1942 and discontinued March 15, 1946. The registration for 1946-1947 was 324; graduates 79. The last session began September 18, 1946 and ended June 7, 1947. The next session will begin September 17, 1947, for freshmen, sophomores and juniors and on September 1, 1947 for seniors, and the session for all classes will end June 5, 1948. The Dean is Joseph T. Wearn, M.D.

Columbus

Ohio State University College of Medicine, Neil and Eleventh Avenues, Zone 10.—Organized in 1907 as the Starling-Ohio Medical College by the union of Starling Medical College (organized in 1847 by charter granted by the State Legislature changing the name from Willoughby Medical College, which was chartered March 3, 1834) with the Ohio Medical University (organized 1890). In 1914 it became an integral part of the Ohio State University with its present title. Coeducational since organization. Three years of collegiate work are required for admission. An accelerated program was adopted June 23, 1942 and discontinued in June 1946. Tuition fees average $315 (increase to $465 autumn 1947) per academic year and $150 additional for nonresidents. The registration for 1946-1947 was 323; graduates 77. The last session began on Oct. 1, 1946 and ended June 9, 1947 for freshmen and sophomores; Mar. 26, 1946 and ended Mar. 15, 1947 for juniors and seniors. The present session began on March 25, 1947 for seniors and will end March 19, 1948; the present junior class began June 17, 1947 and will end March 19, 1948, freshmen and sophomores will begin September 30, 1947 and will end June 11, 1948. The Dean is Charles A. Doan, M.D.

OKLAHOMA

Oklahoma City

University of Oklahoma School of Medicine, 800 North East Thirteenth Street, Zone 4.—Organized in 1900. Until 1910 gave only the first two years of the medical course at Norman, Oklahoma, after which a clinical department was established at Oklahoma City through consolidation with the Medical School of Epworth University. The first class graduated in 1911. Coeducational since organization. A new medical school building and a second teaching hospital became available in 1928, and since September of that year the entire four year course has been given in Oklahoma City. Prerequisites for admission are three years—90 semester hours. An accelerated program was adopted May 10, 1943 and discontinued March 22, 1946. Fees: $50 "maintenance and incidental fee" per semester. Other annual course fees average $142, $129, $57 and $47, in the order given, beginning with the freshman year. For students not residents of Oklahoma there is a tuition charge of $350 a year, plus laboratory and course fees as indicated for the different years. The registrtaion for 1946-1947 was 275; graduates 70. The last session began September 16, 1946 and ended June 2, 1947. The next session will begin September 15, 1947 and will end June 1, 1948. The Dean is J. P. Gray, M.D.

OREGON

Portland

University of Oregon Medical School, Marquam Hill, Zone 1.—Organized in 1887. The first class graduated in 1888, and a class graduated each subsequent year except 1898. The Willamette University Medical Department was merged in 1913. Coeducational since organization. Entrance requirement is three years of collegiate work. An accelerated program was adopted June 22, 1942 and discontinued March 23, 1946. The total fees are, respectively, $388.50, $388.50, $383.50 and $390 for residents of Oregon and $60 a year additional for nonresidents. The registration for 1946-1947 was 277; graduates 69. The last session began October 2, 1946 and ended June 21, 1947. The subsequent session will begin September 30, 1947 and will end June 18, 1948. The Dean is D. W. E. Baird, M.D.

PENNSYLVANIA

Philadelphia

Hahnemann Medical College and Hospital of Philadelphia, 235 North Eifteenth Street, Zone 2.—Organized in 1848 as The Homeopathic Medical College of Pennsylvania. In 1869 it united with The Hahnemann Medical College of Philadelphia, taking the latter title. Assumed present title in 1885. The first class graduated in 1849. Coeducational beginning with 1941-1942 session. Three years of collegiate work in an approved college of arts and sciences are required for admission. An accelerated program was adopted July 27, 1942 and discontinued March 1946. Fees are respectively $655, $650, $650, $675. The registration for 1946-1947 was 459; graduates 132. The last session began for juniors

and seniors April 8, 1946 and ended April 3, 1947. The last session began for sophomores September 30, 1946 and ended June 21, 1947. The last session began for freshmen September 22, 1946 and ended June 14, 1947. The present session began for seniors April 11, 1947 and will end March 18, 1948. The next session will begin for juniors September 29, 1947 and will end May 29, 1948; for sophomores Sep-22, 1947 and will end June 12, 1948. The Dean is Charles L. Brown, M.D.

Jefferson Medical College of Philadelphia, 1025 Walnut Street.—Organized in 1825 as the Medical Department of Jefferson College, Canonsburg, Pa. It was chartered with its present title in 1838. Classes have been graduated annually beginning in 1826. In 1838 a separate university charter was granted without change of title, since which time it has continued under the direction of its board of trustees. For the class entering in 1948 the minimum entrance requirement will be three years of college work. An accelerated program was adopted June 29, 1942 and discontinued Oct. 1, 1946. The tuition fee is $600 a year. The registration for 1946-1947 was 606; graduates 151. The last session began for juniors and seniors on April 15, 1946 and ended May 23, 1947; sophomores began October 1, 1946 and ended June 16, 1947; freshmen began October 1, 1946 and ended June 24, 1947. The next session for all classes will begin September 11, 1947 and will end June 4, 1948. The Dean is William Harvey Perkins, M.D.

Temple University School of Medicine, 3400 North Broad Street, Zone 40.—Organized in 1901. The first class graduated in 1904. Coeducational since organization. Three years of collegiate work are required for admission. An accelerated program was adopted July 1, 1942 and discontinued March 21, 1946. The fees average $610 per academic year. The registration for 1946-1947 was 471; graduates 114. The last session began Sept. 16, 1946 and ended June 19, 1947. The next session will begin Sept. 22, 1947 and will end June 17, 1948. The Dean is William N. Parkinson, M.D.

University of Pennsylvania School of Medicine, Thirty-Sixth and Pine Streets.—Organized in 1765. Classes were graduated in 1768 and in all subsequent years except 1772 and 1775-1779, inclusive. The original title was the Department of Medicine, College of Philadelphia. The present title was adopted in 1909. It granted the first medical diploma issued in America. In 1916, it took over the Medico-Chirurgical College of Philadelphia to develop it is a graduate school. Coeducational since 1914. Three years of collegiate work are required for admission. The accelerated program was adopted July 27, 1942 and discontinued April 1946. The tuition fee is $600, with a deposit fee of $15, a general fee including student health of $15 and a matriculation fee of $5. The registration for 1946-1947 was 494; graduates 132. The last session for juniors and seniors began April 8, 1946 and ended March 15, 1947. The last session for freshmen and sophomores began Sept. 23, 1946 and ended June 7, 1947. The present session began April 7, 1947 for seniors and will end Feb. 28, 1948; and will begin on Sept. 22, 1947 for freshmen, sophomores and juniors and will end June 5, 1948. The Dean is Isaac Starr, M.D.

Woman's Medical College of Pennsylvania, Henry Avenue and Abbottsford Road, Philadelphia 29.—Organized in 1850. Classes were graduated in 1852 and in all subsequent years except 1862. At least three years of collegiate work are required for admission and candidates with a degree are given preference. The curriculum covers four years of eight and one-half months each. An accelerated program was adopted July 1, 1942 and discontinued June 15, 1946. Total fees are $675 yearly. The registration for 1946-1947 was 151; graduates 35. The last session began September 11, 1946 and ended June 6, 1947. The next session will begin September 8, 1947 and will end June 5, 1948. The Dean is Marion Fay, Ph.D.

Pittsburgh

University of Pittsburgh School of Medicine, 3941 O'Hara Street.—Organized in 1886, as the Western Pennsylvania Medical College and in 1908 became an integral part of the University of Pittsburgh, removing to the university campus in 1910. The first class graduated in 1887. Coeducation since 1899. Entrance requirements are two years of collegiate work. An accelerated program was adopted July 6, 1942 and discontinued in April 1946. The total fees are $500 each year. The registration for 1946-1947 was 319; graduates 83. The last session for juniors and seniors began April 8, 1946 and ended March 22, 1947. The last freshman and sophomore classes began September 30, 1946 and ended June 28, 1947. The present session began on April 7, 1947 for seniors and will end March 27, 1948 and will begin on September 29, 1947 for freshmen, sophomores and juniors and will end June 26, 1948. The Dean is William S. McEllroy, M.D.

SOUTH CAROLINA

Charleston

Medical College of the State of South Carolina, 16 Lucas Street, Zone 16.—Organized 1823 as the Medical College of South Carolina. The first class graduated in 1825. In 1832 a medical college bearing the present title was chartered and the two schools continued as separate institutions until they merged in 1838. Classes were graduated in all years except 1862 to 1865, inclusive. In 1913, by legislative enactment, it became a state institution. Coeducational from 1895 to 1912, when privileges for women were withdrawn, being restored in 1917. An accelerated program was adopted June 25, 1942 and discontinued September 26, 1946. At least three years of collegiate work are required for admission. The total fees average $425 each year for residents of South Carolina and $625 for non-residents of the state. The registration for 1946-1947 was 213; graduates 50. The last session began September 26, 1946 and ended June 6, 1947. The next session will begin Septmeber 25, 1947 and will end June 3, 1948. The Dean is Kenneth M. Lynch, M.D.

TENNESSEE

Memphis

University of Tennessee College of Medicine, 874 Union Avenue, Zone 3.—Organized in 1876, at Nashville as Nashville Medical College. First class graduated in 1877, and a class graduated each subsequent year. Became Medical Department of University of Tennessee in 1879. In 1909 it united with the Medical Department of the University of Nashville to form the joint Medical Department of the Universities of Nashville and Tennessee. This union was dissolved in 1911. The trustees of the University of Nashville by formal action of that board named the University of Tennessee College of Medicine as its legal successor. In 1911 it moved to Memphis, where it united with the College of Physicians and Surgeons. The Memphis Hospital Medical College was merged in 1913, Lincoln Memorial University Medical Department was merged in 1914. Coeducational since 1911. Two years of collegiate work are required for admission. The B.S. degree is conferred on students completing the science-medical curriculum of the University. The fees are $175 quarterly. For residents of the state the charge is reduced $50 each quarter. The registration for 1946-1947 was 512; graduates 173. During the next academic year the quarters begin September, January, March and June. The Dean is O. W. Hyman, Ph.D.

Nashville

Meharry Medical College, Eighteenth Avenue North and Meharry Boulevard, Zone 8 (For Negro Youth).—This school was organized in 1876 as the Meharry Medical Department of Central Tennessee College, which became Walden University in 1900. First class graduated in 1877. Obtained new charter independent of Walden University in 1915. Coeducational since 1876. Two years of college work in a school of liberal arts are required for admission. An accelerated program was adopted June 14, 1943 and discontinued June 30, 1946. Tuition fees are, respectively, $410, $400, $390 and $400 each year. The curriculum covers four academic years of thirty-six weeks each. In September 1942, Meharry Medical College instituted the quarter system. The registration for 1946-1947 was 229; graduates 57. The last session began on Sept. 30, 1946 and will end May 31, 1947. The next session begins on Sept. 29, 1947 and ends June 19, 1948. The Director of Medical Education is Murray C. Brown, M.D.; the Dean is Michael J. Bent, M.D.

Vanderbilt University School of Medicine, Twenty-First Avenue South at Edgehill, Zone 4.—This school was founded in 1874. The first class graduated in 1875. Coeducational since 1925. For matriculation, students must be graduates of collegiate institutions of recognized standing or seniors in absentia, who will receive the bachelor degree from their college after having completed successfully one year of work in the school of medicine. The course covers four academic years of nearly nine months each. An accelerated program was adopted June 10, 1942 and discontinued in March 1946. The fees average $515 per academic year. The registration for 1946-1947 was 193; graduates 43. The last session began Sept. 23, 1946 and ended June 7, 1947. The next session will begin on Sept. 22, 1947 and will end June 7, 1948. The Dean is Ernest W. Goodpasture, M.D.

TEXAS

Dallas

Southwestern Medical College of the Southwestern Medical Foundation, 2211 Oak Lawn.—Organized in 1943. The first class graduated March 20, 1944. Coeducational since organization. The medical college is operated on a regular program offering three terms of twelve weeks each per academic year for the first and fourth year class. For the second and third year class there is a half term of six weeks added at the end of the third term. An accelerated program was adopted July 1, 1943 and discontinued Sept. 30, 1946. Tuition for the academic year is $175 per term. Hospitalization charges are not included in this fee. Ninety semester hours are required for admission. Registration for 1946-1947 was 214; graduates 86. The last session began Sept. 30, 1946 and ended for freshmen June 7, 1947, for sophomores and juniors July 19, 1947 and for seniors June 3, 1947. The next session will begin Sept. 1, 1947 and end June 7, 1948. The Dean is W. Lee Hart, M.D.

Galveston

University of Texas School of Medicine, 912 Avenue B.—Organized in 1891. The first class graduated in 1892. Coeducational since organization. The accelerated program which was adopted on June 22, 1942 will be completed with the graduation of the senior class on Feb. 13, 1948. Beginning in September 1948, all classes will be on a regular academic schedule. Ninety semester hours are required for admission to the freshman class matriculating in September 1947, but students are urged to complete the Baccalaureate degree if possible prior to matriculation. The fees average $109 per academic year, including health fees for medical care and hospitalization. The registration for 1946-1947 was 344. Graduates on Feb. 14, 1947 were 84, with six additional students being graduated through June 14, 1947. The last session began on Sept. 16, 1946 for the freshman and sophomore classes and ended on June 14, 1947. The junior and senior classes for the last session began on March 4, 1946 and ended on Feb. 8, 1947. The present senior class began Feb. 10, 1947 and will end on Feb. 13, 1948. The next freshman class will matriculate on Sept. 15, 1947 and the sophomore and junior classes will matriculate on September 22 and will end June 13, 1948. The Vice President is Chauncey D. Leake, Ph.D., and D. Bailey Calvin, Ph.D., is Dean of Student and Curricular Affairs.

Houston

Baylor University College of Medicine, 509 Lincoln Street.—Organized in 1900 at Dallas as the University of Dallas Medical Department. In 1903 it took its present name and became the Medical Department of Baylor University. It acquired the charter of Dallas Medical College in 1904. The school was moved to Houston in 1943. Coeducational since organization. The first class graduated in 1901. An accelerated program was adopted July 12, 1943 and discontinued in April 1946. Entrance requirements are 90 semester hours of collegiate work. The course covers four years of eight months each. The fees are, respectively, $490, $480, $468, $493. The registration for 1946-1947 was 290; graduates 71. The 1947-1948 session will begin Oct. 6, 1947 and will end June 14, 1948. The Dean is W. H. Moursund, M.D.

UTAH

Salt Lake City

University of Utah School of Medicine.—Organized in 1906. Coeducational since organization. Four-year curriculum established March, 1943. Three years of collegiate work are required for admission. The University of Utah has accepted in principle the policy of acceleration by graduating a class in three calendar years (4 academic years), but will admit only one class annually. The next Freshman class will be admitted in June, 1947. All subsequent freshman classes will begin in June of each year. Classes are scheduled during four academic quarters (11-12 wks.) each calendar year. An entering first-year student may be graduated in 12 academic quarters (3 calendar years) after date of admission; attendance during the summer quarter being required. Applications for admission (complete) must be submitted 6 months prior to opening date. The fees for each quarter are $137; there is a non-resident fee of $55 each year. The registration for 1946-1947 was 154; graduates 35. The last session began for freshmen and sophomores June 11, 1946 and ended March 18, 1947. The last session for seniors began in January 1947 and ended in August 1947. The present sophomore and junior classes began March, 1947, and will end Jan., 1948. The present senior class began January, 1947, and will end in August, 1947. The Dean is Richard H. Young, M.D.

VERMONT

Burlington

University of Vermont College of Medicine, Pearl Street, College Park.—Organized with complete course in 1822. Classes graduated in 1823 to 1836, inclusive, when the school was suspended. It was reorganized in 1853 and classes were graduated in 1854 and in all subsequent years. Coeducational since 1920. Three years of college work are required for admission. An accelerated program was adopted July 6, 1942 and discontinued April 15, 1947. For residents of Vermont the tuition fee averages $421 per session. Nonresidents are charged an additional $250 each session. A $25 fee is charged for the doctor's degree. Registration for 1946-1947 was 155; graduates 33. The senior class began April 9, 1946 and graduated April 15, 1947; the next senior class will begin July 3, 1947; the next freshman, sophomore and junior classes will begin Sept. 20, 1947 and all classes will end June 21, 1948. The Dean is William Eustis Brown, M.D.

VIRGINIA

Charlottesville

University of Virginia Department of Medicine.—Organized in 1827. Classes were graduated in 1828 and in all subsequent years except 1865. Coeducational since the session of 1920-1921. Three years of college work are required for admission. An accelerated program was adopted June 29, 1942 and discontinued June 15, 1946. For residents of Virginia the tuition fee is $350 per academic year, for nonresidents $500. The registration for 1946-1947 was 263; graduates 67. The last session began April 5, 1946 and ended May 3, 1947. The next session will begin Sept. 15, 1947 and will end June 14, 1948. The Dean is Harvey E. Jordan, Ph.D.

Richmond

Medical College of Virginia, Twelfth and Marshall Streets.—Organized in 1838 as the Medical Department of Hampden-Sydney College. Present title was taken in 1854. In 1913 the University College of Medicine was merged. In 1914 the North Carolina Medical College was merged. Coeducational since 1918. Classes were graduated in 1839 and in all subsequent years. Three years of collegiate work are required for admission. The accelerated program was adopted July 5, 1942 and discontinued in 1946. Fees average $474 per academic year. Nonresidents are charged an additional $100 each year. The registration for 1946-1947 was 316; graduates 83. The last session began Sept. 24, 1946 for second, third and fourth year classes and ended June 17, 1947. The last session for the first year class began Sept. 18, 1946 and ended June 17, 1947. The subsequent session will begin Sept. 10, 1947 for the first year class and Sept. 15, 1947 for the second, third and fourth year classes and will end June 8, 1948. The Dean is Harvey B. Haag, M.D.

WISCONSIN

Madison

University of Wisconsin Medical School, 418 North Randall Avenue, Zone 6.—Organized in 1907. Gave only the first two years of the medical course until 1925, when the clinical years were added. Coeducational since organization. The fees average $206 per academic year. An additional fee of $200 per year is charged nonresidents. An accelerated program was adopted July 1, 1942 and discontinued July 1, 1946. The registration for 1946-1947 was 267; graduates 60. The last class for freshmen and juniors began Sept. 23, 1946, for sophomores Sept. 2, 1946 and for seniors June 24, 1946 and all classes ended May 24, 1947. The present senior class began June 9, 1947 and will end June 19, 1948. Freshmen, sophomore and junior classes will begin Sept. 29, 1947 and will end June 19, 1948. The Dean is William S. Middleton, M. D.

Milwaukee

Marquette University School of Medicine, 561 North Fifteenth Street.—Organized in December 1912 by the merger of the Milwaukee Medical College and the Wisconsin College of Physicians and Surgeons. Coeducational since organization. Three years of collegiate work are normally required for admission. An accelerated program was adopted July 6, 1942 and discontinued in November 1946. The fees average $600 per academic year. The registration for the 1946-1947 session was 344; graduates 90. The last session began Nov. 12, 1946 and ended July 5, 1947. The next session will begin Sept. 29, 1947 and will end May 29, 1948. The Regent is Rev. A. F. Berens, S. J.

CANADA

Alberta

University of Alberta Faculty of Medicine, Edmonton.—Organized in 1913. Coeducational since organization. Has given the complete medical course since 1924. New course—three years premedical, four years medicine, one year undergraduate internship for medical degree—has been offered beginning with the session 1942-1943. Tuition for the first four years is $250 and for the fifth year $175. The registration for 1946-1947 was 155; graduates 21. The last session began Sept. 16, 1946 and ended May 10, 1947. The next regular session will begin Sept. 16, 1947 and will end May 14, 1948. The Dean is John J. Ower, M.D.

Manitoba

University of Manitoba Faculty of Medicine, Bannatyne Avenue, Winnipeg.—Organized in 1883 as Manitoba Medical College. First class graduated in 1886, and a class graduated each subsequent year. The college transferred all its property to the University of Manitoba in 1919 and assumed the present title. Coeducational since organization. Matriculation requirements include two years of collegiate work in the faculty of arts and sciences of a recognized university. An accelerated program was adopted but was discontinued with class entering in fall of 1943. The course extends over four years of eight months each and a hospital internship. The fees average $396 yearly. The registration for 1946-1947 was 256; graduates 63. The last session began Sept. 13, 1946 and ended May 15, 1947. The next session will begin on Sept. 15, 1947 and will end in May 1948. The Dean is A. T. Mathers, M.D.

Nova Scotia

Dalhousie University Faculty of Medicine, Morris Street, Halifax.—Organized in 1867. Incorporated as the Halifax Medical College in 1875. Reorganized as an examining faculty, separate from the Halifax Medical College, in 1885. In 1911, in accordance with an agreement between the Governors of Dalhousie University and the Corporation of the Halifax Medical College, the work of the latter institution was discontinued and a full teaching faculty was established by the university. First class graduated in 1872. Coeducational since 1871. Requires for matriculation two years of arts. The regular medical course covers four years and a hospital internship of one year approved by the medical faculty. The fees average $331 yearly; $250 additional registration fee payable by students outside the British Empire. The registration for 1946-1947 was 189; graduates 28. The next session for all classes will begin Sept. 9, 1947 and will end May 11, 1948. The Dean is H. G. Grant, M.D.

Ontario

Queen's University Faculty of Medicine, Kingston.—Organized in 1854. First class graduated in 1855 and a class graduated each subsequent year. Fees for the first year amount to $243. The course consists of five sessions of 30 teaching weeks, and a sixth year spent in a hospital designated by the University. The degrees of M.D., C.M. are not awarded until the end of the sixth year. The accelerated program has been abandoned and the prewar time table has been resumed. Freshmen will be admitted annually. Registration for 1946-1947 was 258; graduates 41. The last session began Sept. 23, 1946 and ended May 17, 1947. The next session will begin Sept. 22, 1947 and will end May 15, 1948. The last convocation was held on June 19, 1947. As a result of the discontinuance of the accelerated medical course there will be no graduating class until June 1949. The Dean is G. Spencer Melvin, M.D.

University of Western Ontario Faculty of Medicine, 346 South Street, London.—Organized in 1881 as the Western University Faculty of Medicine. First class graduated in 1883 and a class graduated each subsequent year. Present title in 1923. The Faculty of Medicine has been under the control of the Board of Governors of the University of Western Ontario since 1913. Coeducational since 1913. The normal course of study covers two honour college years of nine months each and four years of ten months each in the Faculty of Medicine. The total fees to residents of Canada for the last four years, respectively, are $390, $390, $390, $398; nonresidents are charged $700, $700, $700, $708 for each of the last four years. The registration for 1946-1947 was 232; graduates 34. The last session began Sept. 9, 1946 and ended June 14, 1947. The next session begins Sept. 8, 1947 and ends June 12, 1948. The Dean is J. B. Collip, M.D.

University of Toronto Faculty of Medicine, Toronto 5.—Organized in 1843 as the Medical Faculty of King's College. Abolished in 1853. Reestablished in 1887. In 1902 it absorbed Victoria University Medical Department, and in 1903 it absorbed the Medical Faculty of Trinity University. Coeducational since 1903. The B.Sc.(Med.) degree is conferred at the end of the second or subsequent medical year. The fees are $210 for the first and second premedical years; $391 for the

first, second and third medical years; $419 for the fourth medical year. The registration for 1946-1947 was 911; graduates 124. The last class began Sept. 24, 1946 and ended May 3, 1947. The next session for first and second premedical years will begin on Sept. 23, 1947 and for first, second, third and fourth medical years on Sept. 8, 1947. The session for premedical years will end on May 1 and for medical years on May 29, 1948. Students will graduate annually in June. The Dean is J. A. MacFarlane, M.B.

Quebec

McGill University Faculty of Medicine, 3640 University Street, Montreal.—Founded in 1823 as Montreal Medical Institution; became the Medical Faculty of McGill University in 1829; first class graduated under the university auspices in 1833. No session between 1836-1839, owing to political troubles. In 1905 it absorbed the Faculty of Medicine of the University of Bishop's College. Coeducational since 1917. Three years of collegiate work are required for admission. The total fees for each of the four medical years are $391 plus $100 for non-British subjects. The registration for 1946-1947 was 462; graduates 92. The last session began Sept. 4, 1946 and ended June 1, 1947. The next session will begin Sept. 3, 1947 and will end June 1, 1948. The Dean is Frederick Smith, M.D.

University of Montreal Faculty of Medicine, 2900 Mount Royal Boulevard, Montreal.—Organized in 1843 as the Montreal School of Medicine and Surgery. In 1891, by Act of Parliament, the Medical Faculty of Laval University (organized in 1878) was absorbed. Present name by Act of Parliament in 1920. A class was graduated in 1843 and each subsequent year. Coeducational since 1925. The requirements for admission are: First, a B.A. degree (or its equivalent); second, one year premedical in the faculty of pure sciences (or an entrance examination on the premedical subjects). An internship is required for graduation. The fees average $285 yearly. The registration for 1946-1947 was 389; graduates 79. The last session began Sept. 16, 1946 and ended May 10, 1947. The next session will begin Sept. 15, 1947 and will end May 8, 1948. The Dean is Edmond Dubé, M.D.

Laval University Faculty of Medicine, Quebec.—The Quebec School of Medicine, organized in 1848, became in 1852 the Laval University Faculty of Medicine; first class graduated in 1855, and a class graduated each subsequent year. The faculty numbers 145. The fees for each of the medical years average $226 for residents of Canada. Nonresidents are charged an extra fee of $200 each year. The premedical requirement is a B.A. degree or its equivalent. The registration for 1946-1947 was 513; graduates 85. The last session began Sept. 12, 1946 and ended June 1, 1947. The next session will begin Sept. 17, 1947 and will end June 1, 1948. The Dean is Charles Vézina, M.D.

APPROVED SCHOOLS OF THE BASIC MEDICAL SCIENCES

MISSISSIPPI
University

University of Mississippi School of Medicine.—Organized in 1903. Coeducational since organization. A clinical department was established at Vicksburg in 1908 but was discontinued in 1910 after graduating one class. Entrance requirement is three years of collegiate work or ninety semester hours of credit. Fees average $441 annually. There is a nonresident fee of $200. An accelerated program was adopted June 1, 1942 and discontinued June 28, 1946. The last session began Sept. 24, 1946 and ended May 31, 1947 (July 3 for sophomores). Additional freshman class admitted Jan. 30, 1947, will end Sept. 27, 1947. Sophomore session began July 7, 1947 and will end April 3, 1948. Another sophomore class begins Nov. 3, 1947 and will end July 3, 1948. The Dean is David S. Pankratz, M.D.

MISSOURI
Columbia

University of Missouri School of Medicine.—Organized at St. Louis in 1845; was discontinued in 1855 but was reorganized at Columbia in 1872. Teaching of the clinical years was suspended in 1909. Coeducational since 1872. The entrance requirements are 90 semester hours of collegiate work. An accelerated program was adopted June 15, 1942 and discontinued Sept. 21, 1946. The B.S. degree in medicine is conferred at the end of the second year. Total fees for the first year are $266, for the second $255. The registration for 1946-1947 was 73. The last session began Sept. 21, 1946 and ended June 5, 1947. The next session begins Sept. 16, 1947 and will end June 4, 1948. The Dean is Dudley S. Conley, M.D.

NEW HAMPSHIRE
Hanover

Dartmouth Medical School.—Organized by Dr. Nathan Smith in 1797. The first class graduated in 1798. It is under the control of the Trustees of Dartmouth College. Courses of the third and fourth years were discontinued in 1914. Three years of college work and candidacy for the bachelor's degree are required for admission. Candidates for the A.B. degree in Dartmouth College may substitute the work of the first year in medicine for that of the senior year. An accelerated program was adopted May 25, 1942 and discontinued June 29, 1946. The tuition is $550 for each year. The registration for 1946-1947 was 34. The last session began on September 30, 1946 and ended June 15, 1947. The next session will begin Oct. 3, 1947 and will end June 13, 1948. The Dean is Rolf C. Syvertsen, M.D.

NORTH CAROLINA
Chapel Hill

University of North Carolina School of Medicine.—Organized in 1890. Until 1902 this school gave only the work of the first two years, when the course was extended to four years by the establishment of a department in Raleigh. The first class was graduated in 1903. A class was graduated each subsequent year, including 1910, when the clinical department at Raleigh was discontinued. Coeducational since 1914. Three years of college work are normally required for admission. Certificates are awarded on the completion of two years' work in medicine. An accelerated program was adopted June 15, 1942 and discontinued in June 1946. The fees for each year are $333 for the first year and $343 for the second year for residents; for non-residents an additional fee of $100 per year. The registration for 1946-1947 was 79. The North Carolina Legislature of 1947 appropriated funds for the expansion of the school to the full four years. The full program will probably not get under way for three to four years. The last session began Sept. 16, 1946 and ended in June 1947. The next session will begin September 22, 1947 and end in June 1948. The Dean is W. Reece Berryhill, M.D.

NORTH DAKOTA
Grand Forks

University of North Dakota School of Medicine.—Organized in 1905. Offers only the first two years of the medical course. Coeducational since organization. Three years work in a college of liberal arts are required for admission. The B.S. degree in combined arts-medical course is conferred at the end of the second year. An accelerated program was adopted June 14, 1943 and discontinued in June 1946. The fees are about $120 each year for resident students and about $200 for nonresidents. The registration, academic year 1946-1947, was 49. The last session began Sept. 23, 1946 and ended June 8, 1947. The next session will begin Sept. 24, 1947 and will end June 13, 1948. The Dean is Alfred H. Lawton, M.D.

SOUTH DAKOTA
Vermillion

University of South Dakota School of Medical Sciences.—Organized in 1907 as the University of South Dakota School of Medicine. Present title in 1937. Coeducational since organization. Offers only the first two years of the medical course. Three years work in a college of liberal arts are required for admission. Students who complete the third year of premedical work in the College of Arts and Sciences at the University of South Dakota may apply the work of the first year of medicine to an A.B. degree. The B.S. degree is conferred at the end of the second year on those students who do not hold a combination (Arts and Sciences and Medicine Course) A.B. degree. An accelerated program was adopted June 15, 1942 and discontinued in September 1946. The tuition is $200 each year for residents and $450 for nonresidents. The registration for 1946-1947 was 51. The last session began September 16, 1946 and ended May 25, 1947. The next session will begin September 8, 1947 and will end May 29, 1948. The Dean is Donald Slaughter, M.D.

WEST VIRGINIA
Morgantown

West Virginia University School of Medicine.—Organized in 1902. Gives the first two years of the medical course, but agreement has been made for the transfer of 20 students each year to the Medical College of Virginia. Coeducational since organization. Entrance requirements are three years of collegiate work. The B.S. degree in medicine is conferred at the end of the second year. An accelerated program was adopted June 1, 1942 and discontinued in March 1946. Fees for residents of the state are, respectively, $254 and $264; nonresidents, $150 additional each year. The registration for 1946-1947 was 57. The last session began Sept. 16, 1946 and ended June 2, 1947. The next session will begin Sept. 15, 1947 and will end May 31, 1948. The Dean is Edward J. Van Liere, M.D.

CANADA
Saskatchewan

University of Saskatchewan School of Medical Sciences, Saskatoon.—Organized in 1926. Coeducational. Offers the first two years of the medical course. Two years of collegiate work are required for admission. The B.A. degree is conferred at the end of the second year. The fees are $199. The registration for 1946-1947 was 50. The last session for freshmen began Sept. 21, 1946 and ended June 21, 1947 and for sophomores Sept. 9, 1946 to July 12, 1947. The next session will begin Sept. 22, 1947 and will end June 22, 1948. The Dean is W. S. Lindsay, M.B.

ESSENTIALS OF APPROVED RESIDENCIES AND FELLOWSHIPS

(Revised to June 1947; originally published J. A. M. A. 90: 922 [March 24] 1928)

Residencies and fellowships in the clinical branches of medicine, surgery and other specialties represent advanced training usually in preparation for the practice of a specialty. Residencies in specialties, as defined by the Council, are straight services of one or more years following an approved internship. A fellowship is a form of advanced training which in some cases is indistinguishable from a residency, although it usually offers greater opportunity for the study of basic sciences and research. Ordinarily a fellowship is a university rather than a hospital appointment. A general residency (also called a "mixed residency") is a general hospital assignment of one or more years after the internship. It usually does not carry credit toward certification by the American boards in the specialties but is designed rather to provide additional general training. All approved internship hospitals are also approved for general residencies.

Approved residencies and fellowships may be offered in the following branches of medicine; further information concerning these fields and their relationship to the established American boards are given in later sections of these "Essentials":

1. Allergy ‡
2. Anesthesiology *
3. Cardiovascular Disease §
4. Contagious Diseases
5. Dermatology and Syphilology *
6. Gastroenterology †
7. General Residency
8. Internal Medicine *
9. Malignant Diseases
10. Neurological Surgery *
11. Neurology *
12. Obstetrics and Gynecology *
13. Occupational Medicine
14. Ophthalmology *
15. Orthopedic Surgery *
16. Otolaryngology *
17. Pathology *
18. Pediatrics *
19. Physical Medicine
20. Plastic Surgery *
21. Proctology ‡
22. Psychiatry and Neurology *
23. Pulmonary Diseases †
24. Radiology *
25. Surgery *
26. Thoracic Surgery
27. Urology *

I. GENERAL REQUIREMENTS

Registration.—Previous approval as a registered hospital of the American Medical Association is essential for hospitals offering approved fellowships and residencies in specialties. (See the Council's "Essentials of a Registered Hospital.")

This implies that each hospital must be adequately organized, staffed and equipped, and that it be conducted primarily for the welfare of the sick. The educational functions described herein are supplementary to the main purpose of the hospital service but are closely related thereto in that they serve to improve the quality of medical practice.

Size.—The size of the institution is not a primary consideration. The clinical material, however, should be sufficient to enable residents to observe the principal manifestations of the disease conditions in the understanding and management of which they are acquiring further experience.

Plant and Equipment.—The physical plant should be such as to assure good medical and hospital care as well as the safety and comfort of the patients. There should be such equipment, appliances and apparatus as are commonly employed in the specialty in which the training is offered and in the use of which the resident should become proficient.

* Specialists may be certified in this specialty by an American board fulfilling the Council's "Essentials for Approved Examining Boards in Specialties."

† Specialists may be certified in this specialty by the American Board of Internal Medicine; applicants must first fulfill certification requirements in Internal Medicine.

§ Specialists may be certified in this specialty by the American Board of Internal Medicine; applicants must first fulfill certification requirements in Internal Medicine or Pediatrics.

‡ Specialists may be certified in this specialty by the American Board of Surgery; applicants must first fulfill certification requirements in Surgery.

‡ Specialists may be certified in this specialty by the American Board of Internal Medicine or the American Board of Pediatrics; applicants must first fulfill certification requirements in Internal Medicine or Pediatrics.

1. Staff

There should be an organized staff of ethical, licensed physicians holding the degree of doctor of medicine from medical schools acceptable to the Council on Medical Education and Hospitals of the American Medical Association. The particular specialties in which residents are being trained should be represented on the staff by well qualified, experienced and proficient physicians, whether or not they may be certified in a specialty or hold memberships in special societies.

In general hospitals, the staff should be organized into departments in those branches of medicine in which residencies are offered, with a competent director of each service, whose qualifications are acceptable to the Council. The director should assume responsibility for the training of residents and should require others of his staff to give the instruction and sympathetic cooperation which residents require.

It is essential that there shall be at least monthly clinical-pathologic conferences or other regular staff meetings at which the histories, clinical observations, laboratory studies and pathology of selected cases are reviewed. In addition to meetings of the staff as a whole, it is expected that departmental conferences shall be conducted in which residents should take an active part, so that the quality of the service given by that department to its patients may be recurringly evaluated. Other educational activities requiring full support of the staff are described under Training Program, Applied Basic Sciences, and Teaching and Investigation, sections I-8, I-9, and I-10, and Special Requirements, section II.

2. Department of Radiology

The department of radiology should be under the direction of a qualified radiologist proficient in the various functions of his specialty. He must likewise cooperate fully in the training of all hospital residents and supervise any direct contact which they may have with the work of the department. The department should contain appropriate and modern roentgenographic, roentgenoscopic and, where required, therapeutic equipment and radium. It should keep adequate cross-indexed records. These facilities are essential in institutions offering approved residency or fellowship programs in any field.

A description of the special requirements for a residency in radiology is given in section II-24.

3. Department of Pathology

The department of pathology should be under the direction of a qualified pathologist who shall be prepared to cooperate fully in the training of all hospital residents and supervise any direct contact which they have with the laboratory. This department should assume much of the responsibility for the clinical pathologic conferences. The department should provide apparatus, reagents and materials necessary for the operation of a modern clinical and pathologic laboratory, and maintain satisfactory records, with cross-indexing. Adequate necropsy facilities and instruction are also necessary.

A description of the special requirements for an approved residency in pathology is given in section II-17.

4. Necropsies

Thoroughness in postmortem performance should be emphasized. All institutions and individual clinical services desiring approval for the training of residents must maintain a satisfactory percentage of postmortem examinations. Complete necropsy records should be kept on file and each should contain a summary of the clinical record and detailed description of both the gross and the microscopic observations. Residents of all departments should attend postmortem examinations as often as possible. They may, with value, participate in the performance

of necropsies; in the analysis of microscopic findings on materials derived from their own service and in the preparation of the protocols.

5. Medical Library

Institutions offering approved residencies and fellowships should maintain or provide ready access to an adequate medical library containing modern texts and monographs, the Quarterly Cumulative Index Medicus and current scientific and professional journals relating to the fields in which residencies and fellowships are offered. Lists of texts and journals which may be included in the libraries for the various specialties are available from the Council.

6. Histories and Records

There must be complete records, including the patient's complaint, case history, physical examination at the time of admission, a provisional diagnosis, laboratory observations, therapy employed, descriptions of operations if any, suitable progress notes, consultations, final diagnosis, condition on discharge, necropsy observations in case of death if postmortem examination is performed, and an appropriate summary.

The records should show by signatures, or initials, the names of all persons writing them or parts of them as well as the names of the staff members by whom the records are verified. Likewise, all orders and progress notes should be initialed or signed. Each completed history should be verified by a staff member.

The record department should be under the supervision of some competent person, preferably a trained medical record librarian. Alphabetical and diagnostic indexes of the patients should be maintained and the records filed so as to be readily accessible. Operative procedures and radiologic and pathologic material should likewise be classified in a suitable manner. The employment of the Standard Nomenclature of Disease and Operations is strongly recommended.

7. Eligibility of Applicants

Candidates for residencies or fellowships should be selected from graduates of medical schools acceptable to the Council on Medical Education and Hospitals of the American Medical Association who have served an internship in an approved hospital or have had two or more years in practice. It is recommended, however, that candidates seeking residencies or fellowships in such special fields of surgery as urology, orthopedics, plastic surgery, thoracic surgery, neurological surgery or proctology should first have completed one year of general surgical training beyond the internship.

8. Training Program

The educational effectiveness of a residency or fellowship program depends largely on the quality of its supervision and organization. It is important, therefore, that methods of instruction be employed which are best suited to the special field. Emphasis should be placed on bedside instruction, clinical experience, related laboratory studies, teaching rounds, departmental meetings or seminars, clinical-pathologic conferences, demonstrations and lectures. Familiarity with, and critical analysis of pertinent medical literature, is an important feature of residency training.

Aside from the daily contact with patients and the attending staff and participation in the organized educational program, the assumption of responsibility is a most valuable aspect of residency and fellowship training. Consequently, as ability is demonstrated, an increasing amount of reliance should be placed in the judgment of residents in diagnosis and in treatment as well as in the teaching of interns and/or medical students.

From the point of view of medical education, many residencies and fellowships are designed primarily to provide the training required for practice in some specialty of medicine. A given approved residency may not provide complete training in a specialty field, but each service that is properly organized will make a substantial contribution to the program of advanced training. Ordinarily, the duration of an approved residency or fellowship should be at least twelve months and might well be extended to two or more years when suitable facilities are available.

Most residency programs are designed to meet the needs of physicians seeking certification by an American board. Therefore in fields represented by the American boards, the Council seeks to approve only such residencies or fellowships as will be acceptable in whole or in part for admission to the certification examinations.

Although some residency hospitals will benefit by affiliation with medical schools, it is possible to conduct acceptable programs without such affiliation. Many approved hospitals must necessarily organize their residencies independently of medical schools including provision for training in the applied basic medical sciences.

9. Applied Basic Medical Sciences

Competence in any of the various specialties in clinical medicine requires a knowledge of the basic medical sciences employed in that specialty. Therefore, residency and fellowship programs acceptable to the Council and the American boards must provide for training in the applied basic medical sciences. Such training does not necessitate formal course work, specific assigned laboratory exercises, or affiliation of the residency hospital with a medical school; it should be distinctly of an applied nature, closely integrated with the clinical experience of the resident.

Any resident seeking competence or certification in a specialty must be able to apply at least the following basic sciences to his special field of medicine: anatomy, bacteriology, biochemistry, pathology, pharmacology and physiology. Undergraduate education in an approved medical school provides a background for an understanding of these sciences, so that the special training of the residency should not include hasty and inadequate reviews of these subjects, but rather their application to a given specialty.

Anatomy.—Anatomy at the residency level may well be taught, reviewed or learned from the living body, on the operating or examining table or from the fresh tissues in the pathological laboratory. More important in anatomical instruction of residents than an available anatomical laboratory is the attitude and enthusiasm of the hospital staff in availing themselves of opportunities to teach and learn applied gross and microscopic anatomy from clinical and pathological material. Opportunities for anatomical dissection, when available, may be utilized for supplementary training.

Bacteriology.—The hospital facilities and professional personnel in bacteriology, and in the allied sciences of parasitology, mycology, immunology and serology, should be such as to afford the resident opportunity and incentive to broaden his existing knowledge in these subjects in the light of his special clinical assignments and interests.

Biochemistry.—The hospital biochemistry laboratory should provide the resident with opportunities to broaden his knowledge of biochemistry as related to such clinical problems as he may encounter in his specialty; for example, water balance, acid-base equilibrium, glucose tolerance, and blood or urine levels of significant metabolic, nutritional or therapeutic elements. Such applied basic science work in biochemistry may be far more valuable than a formal review course in the field.

Pathology.—In a well conducted department of pathology of an acceptable residency hospital there is opportunity for correlating much basic medical science material with problems of clinical medicine. Applied gross and microscopic anatomy may be effectively learned from necropsy and surgical specimens. The clinical-pathologic conference should and can be one of the most effective devises for correlation of the basic sciences with clinical medicine.

Pharmacology.—Since the principles of pharmacology are involved in every therapeutic administration of chemical substances to patients, the wards of the residency hospitals provide

very suitable opportunities for the resident to apply and expand the knowledge of pharmacology previously gained in medical school.

Physiology.—Historically, one of the most fruitful fields of investigation into the normal functions of the body has been the study of abnormality of function to which the resident in clinical medicine is constantly exposed. Clinical medicine affords a rich field for the study of physiology and a potent stimulus to the resident to apply the basic principles of this science. Much of the equipment and special apparatus employed in clinical studies of the patient are likewise used in physiology, so that clinical studies provide ample opportunity and stimulation for the resident to supplement his knowledge of physiology with applications of the science to clinical problems. Encouragement and opportunity for an enlarged understanding of body function in health and disease should be part of the experience of the resident in any of the specialties in the course of his clinical work.

10. Teaching and Investigation

Residents and fellows should be assigned to teaching responsibilities as their experience increases. The stimulating teacher-student relationship should be part of the resident's experience, not only as the student of the attending physician, but as the teacher of interns and nurses and, in medical school hospitals, of junior and senior medical students.

When the facilities of an institution warrant, and when the residents are competent and interested, they should be encouraged to engage in research, not only as an educational experience, but to increase the effectiveness of the hospital and its staff in caring for the sick. Such investigation may take the form of research in the hospital laboratories or wards, summaries of medical literature, or the preparation of statistical analyses derived from the hospital record department.

Affiliation of a residency hospital with a medical school is not essential for an acceptable educational program. Those hospitals having such an affiliation are in a position to provide the interested resident with educational opportunities supplementary to the training required for competence in the specialty. Such opportunities lie particularly in the fields of advanced laboratory training and research. Qualified and interested residents and fellows should be encouraged to undertake research programs at medical schools, within the limitations of available facilities. Interruption of the hospital assignments with a period of research under medical school guidance may be of inestimable value. While medical school affiliations have greatly strengthened residency and fellowship programs, many approved hospitals are able to conduct acceptable programs without such affiliations.

II. SPECIAL REQUIREMENTS

The following regulations pertaining to individual specialties describe the special training, in addition to the foregoing, required for competence in the practice of the various specialties of medicine and for admission to the examinations of the American boards in those specialties. Residents who plan to seek certification by an American board should communicate with the secretary of the appropriate board, as listed in Section IV, to be certain regarding the full requirements for certification.

1. Allergy (See Internal Medicine, Pediatrics.)

2. Anesthesiology

The director of the department should be a qualified physician limiting his practice to anesthesiology and competent to supervise the technical and educational activities of the department. His staff should include an adequate number of trained anesthetists in accordance with the needs of the service.

Equipment must be satisfactory for the teaching of modern methods of anesthesiology and should include suitable apparatus for gas administration, spinal anesthesia, resuscitation and inhalation therapy. Likewise, the clinical material must be sufficient to afford residents adequate experience in the various methods and types of anesthesia now commonly employed. Residencies in anesthesiology should provide systematic clinical and technical instruction supplemented by appropriate seminars, lectures and demonstrations on anatomic and other material.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—It is expected that each resident should administer approximately 500 anesthetics a year.

Applied Basic Science Instruction.—Applied anatomy, biochemistry, pharmacology and physiology are especially desirable and should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Anesthesiology requires candidates for the certification examination to have five years after the internship of active experience limited to anesthesiology, of which at least two years is devoted to acceptable supervised clinical training in this specialty.

3. Cardiovascular Disease (See Internal Medicine.)

4. Contagious Diseases

Training programs in contagious diseases might well follow the general pattern of work described for internal medicine or pediatrics, or both.

Although there is no certification in contagious diseases as such, training credit for six months in approved residencies in this field may be granted by the American Boards of Internal Medicine and of Pediatrics. A well balanced service is essential for residency training in contagious diseases. Between 300 and 400 admissions a year may be considered sufficient, especially if most of the acute contagious diseases are well represented.

5. Dermatology and Syphilology

The practice of dermatology and syphilology is concerned largely with ambulatory patients, so that it is essential that an active outpatient service be available to furnish sufficient clinical material in the various divisions of the specialty. It is also desirable that hospital facilities be available and that residents be given an opportunity to observe the dermatologic manifestations of the acute contagious diseases. There should be a well organized course of instruction involving lectures, seminars, clinical demonstrations and laboratory assignments, especially in histopathology, parasitology, mycology, and immunology. To facilitate clinical and laboratory teaching it is essential that the department have ready access to an adequate supply of classified anatomic and pathologic material including histologic and lantern slides for demonstrations. Projection apparatus should be available and also facilities for clinical photography.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—Ordinarily a minimum of 1,500 new outpatients a year is considered essential in the dermatologic division and a similar number in syphilology.

Applied Basic Science Instruction.—The residency should include organized study in the various applied basic sciences as related to clinical dermatology, especially in bacteriology, immunology, mycology, parasitology, serology, biochemistry, embryology, histology, pathology, pharmacology and physiology, as well as physics as related to therapy by physical agents. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Dermatology and Syphilology requires candidates for the certification examination to complete three years of systematic instruction after the internship and two additional years of study or practice. The period of specialized training following internship shall

include not less than eighteen months of active experience in clinical dermatology and syphilology and organized study in the applied basic medical sciences.

6. Gastroenterology (See Internal Medicine.)

7. General Residency

General residencies (also called "mixed residencies") are hospital assignments of a general type after the internship. While providing additional general training, they ordinarily carry no credit toward certification by the specialty boards. All hospitals approved for intern training are automatically accredited for general residencies. Other general hospitals may be approved for such work provided (*a*) they conform to the general requirements for residency training, as described in Section I of these essentials and (*b*) there is an admission rate of at least 1,500 patients per year.

8. Internal Medicine

Residencies and fellowships in internal medicine should be organized on a broad basis to furnish instruction in the various specialties which combine to form the foundation of practice in internal medicine. Accordingly, the service should not be limited entirely to general medicine and its subdivisions of allergy, cardiovascular disease, gastroenterology, metabolic diseases, contagious diseases and pulmonary diseases but might well include a reasonable amount of instruction in the divisions of psychiatry and neurology, dermatology and syphilology, and pediatrics, now organized as independent specialties.

In institutions offering residencies and fellowships in internal medicine, and in the special fields of allergy, cardiovascular disease, gastroenterology or pulmonary diseases, emphasis should be placed on the educational features of the service and residents should receive regular instruction from members of the staff in methods of clinical study and diagnostic and therapeutic procedures. Of particular importance is the study of etiology, pathogenesis, symptomatology and course of the various diseases so that the residents may develop skill and accuracy in diagnosis as well as a mature judgment and resourcefulness in therapy.

Under the supervision of qualified members of the staff the residents should assume individual responsibility in actual case management. They should also be required to correlate clinical studies with postmortem pathology, review medical literature and take an active part in weekly teaching rounds, departmental seminars and clinical-pathologic conferences.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—For approval a residency in internal medicine should have at least 400 annual admissions.

Applied Basic Science Instruction.—Anatomy, bacteriology, biochemistry, pathology, pharmacology and physiology are especially desirable and should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Internal Medicine requires candidates for the certification examination to have an approved internship of at least twelve months, three years of special training and two additional years of practice in the field of internal medicine or its more restricted and specialized branches. Not more than one year of instruction in the related medical specialties and basic sciences can be applied to the three year period of special training. General (or "mixed") residencies are ordinarily not regarded as satisfying any part of the required training. Also, a second year of internship will be recognized only if the second year is limited entirely to the medical service in a hospital which is approved by the Council on Medical Education and Hospitals for resident training in internal medicine. Physicians seeking certification in one of the special branches of internal medicine (i.e., allergy, cardiovascular disease, gastroenterology and pulmonary diseases) must first fulfill all the requirements for certification in internal medicine, including the examination.

Special Fields of Internal Medicine.—Residencies may be offered in the special fields of allergy, cardiovascular disease, gastroenterology or pulmonary diseases. Residencies in these fields should follow the general pattern described above for internal medicine as well as the following:

Allergy (See also allergy under pediatrics).—The objective of intensive training in allergy is to fit the physician for the highest type of practice, teaching and research in this specialty. A residency in allergy should comprise at least one though preferably two years of full time work. Residents in allergy should be given a thorough training in the fundamentals of human and animal sensitization through clinical study and laboratory experiments. There should be daily conferences or consultations with the staff. Reading of current articles and reviews of special topics should be assigned. Residents should be given responsibility for diagnosis and management of various diseases of allergy, for the teaching of interns, medical students and nurses as capability has been demonstrated. Problems in clinical or laboratory allergy should be utilized to develop an interest in research.

If the allergy service is not under the Department of Medicine, it should have inter-departmental associations so arranged as to give residents of the allergy unit continuing contact with the general medical (or pediatric) services through ward rounds, clinical-pathologic conferences, staff meetings, and so forth. The service should admit 200-300 ambulatory patients yearly, and have facilities for hospitalizing bed patients, in addition to cases seen in consultation with other services. It should have adequate laboratory facilities for those special chemical-immunologic, pathologic and bacteriologic procedures required in its field. The training of residents in allergy should be arranged to fit into the established programs of the American Boards of Internal Medicine or Pediatrics. Candidates for positions offering specialized training in allergy should previously have fulfilled the basic requirements of the parent board before undertaking study in the special field.

Certification in allergy is granted only to those who have previously fulfilled all the requirements for certification in internal medicine or pediatrics, including the examination.

Cardiovascular Disease.—In general, residencies in this field should follow the general pattern of residencies in internal medicine. There should be opportunities and facilities for the study of all types of cardiovascular disease, both acute and chronic. It is important that there be adequate opportunity for the study of such cardiac disorders in childhood as rheumatic heart disease and congenital abnormalities. There should be provisions for experience with peripheral vascular disease and electrocardiography. Clinical or experimental investigation should be encouraged. The number of patients admitted to this service may not be an accurate index of the available clinical material, since a large part of the material is commonly supplied on a consultation basis.

Certification in cardiovascular disease is granted only to those who have previously fulfilled all the requirements for certification in internal medicine or pediatrics, including the examination.

Gastroenterology.—Training in gastroenterology should take place not only in the hospital but also in the outpatient clinic. A hospital service of at least 10 beds or 200 admissions a year and work in a well organized gastroenterologic clinic for ambulatory patients admitting at least 200 patients a year should be considered sufficient, provided the service and its staff are acceptable. The resident, in addition to working in the department, should have careful instruction in actual care of patients and the following diagnostic and therapeutic measures: (*a*) fluoroscopy and the interpretation of roentgenograms of the gastrointestinal tract and its accessory organs; (*b*) endoscopy, including proctoscopy, gastroscopy and peritoneoscopy; (*c*) laboratory procedures, including analysis of gastric contents, bile and feces, tests of hepatic and pancreatic

function, and the evaluation of these and ancillary laboratory findings with respect to their bearing on disease and disorders of the gastrointestinal and biliary tract; (*d*) the surgical aspects of gastrointestinal diseases, including consultation with surgeons, recognition of indications for operation, familiarity with operative procedures, and presence at operations on gastroenterologic patients wherever possible and (*e*) medical care of gastrointestinal diseases, including careful study of diet and nutrition, and the effects of drugs and other therapeutic measures on the gastrointestinal tract.

Original research work in gastroenterology could well be included in the previous residency in internal medicine and continued in the gastroenterologic residency fellowship only so far as it would not interfere with the essential training program outlined above.

Certification in gastroenterology is granted only to those who have previously fulfilled all the requirements for certification in internal medicine, including the examination.

Pulmonary Diseases.—Training in pulmonary diseases should be of such a character that residents may become thoroughly familiar with the various phases of institutional service in pulmonary diseases as well as the community aspects of tuberculosis control. This necessitates a well organized program of instruction with rotating assignments in the admitting department, infirmaries, convalescent and ambulatory wards and the outpatient clinics. Careful instruction should be provided in diagnosis, interpretation of roentgenograms, therapeutic procedures and general sanatorium care. It is particularly important that the residents become fully acquainted with the use of air or gas injection and the technic of the initial induction as well as the subsequent refills. If a surgical department is maintained, the operative service may be combined with the general training in pulmonary diseases or it may form the basis of a separate residency in thoracic surgery.

It must be emphasized that residencies in pulmonary diseases are educational in character and that of the full time sanatorium staff only those physicians who serve primarily on an educational basis come within the residency classification of the Council.

The clinical material must be adequate in kind and amount. Approximately 125 inpatients a year may be sufficient for a residency in pulmonary diseases.

Certification in pulmonary diseases is granted only to those who have previously fulfilled all the requirements for certification in internal medicine, including the examination.

9. Malignant Diseases

The division of malignant diseases is largely a combination of services involving practically all the branches of medicine and surgery, including pathology and radiology. It is important, therefore, that competent staff physicians be assigned to all departments and that special facilities be available for pathology, operative surgery, diagnostic roentgenology, therapeutic roentgenology and radium therapy.

The clinical material should be sufficient in kind and amount to enable residents to observe and study the various types of malignant diseases and the methods of therapy commonly employed. A teaching service should have approximately 350 inpatients a year and additional material in the outpatient tumor clinic.

Ordinarily, the training is general in type with assignments in clinical diagnosis, pathology, surgery, diagnostic roentgenology, therapeutic roentgenology and radium therapy. Courses in surgical and postmortem pathology, radiophysics and radiobiology are often included. In some instances the service is limited in scope and is utilized primarily as supplementary training in surgery, pathology, or radiology.

Although there is no certification in malignant diseases as such, some credit toward eligibility for the certification examinations may be granted by the American Boards of Surgery, Pathology and Radiology.

10. Neurological Surgery

Institutions offering residencies in neurological surgery should provide adequate facilities for the practice and teaching in this field. The clinical material must be sufficient to provide experience in the various phases of the subject. It should include an adequate number of cases of traumatic injury of the central nervous system, cerebral and spinal neoplasms, and surgical disorders of the peripheral and sympathetic nervous systems. Close contact between the residents and the neurological surgeons and others responsible for the diagnosis and care of the patients is essential. It is likewise essential that the resident staff participate actively in the diagnosis, operative treatment and post-operative care of the patients and not serve merely as onlookers. The residency should constitute a full time service. The period of training should be chiefly clinical rather than didactic. It should be concerned primarily with the diagnosis and treatment of neurosurgical disorders. With this training program there should be a concurrent program of training in the applied basic sciences, in diagnostic neurology, and in neurological roentgenology and ophthalmology. To qualify for approval for the three full years of training in this field a residency must provide experience in all the phases of neurological surgery. However, some residencies may qualify to supply a part of the requisite training in one or more of the essential phases.

The surgical training should be sufficient to insure a reasonable degree of technical experience and skill. The resident should have the opportunity to undertake some operative work under competent supervision, especially toward the end of his training program.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—An acceptable residency in this field requires an annual admission rate of at least 150 patients.

Applied Basic Science Instruction.—Organized basic science work as applied to neurological surgery is especially desirable in anatomy, pathology and physiology. This should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Neurological Surgery requires candidates for the certifying examination to have at least one year of general surgical training or a one year's assistant residency in general surgery before beginning their training in neurological surgery. The special training in neurological surgery consists of at least three years training in an approved residency. A period of two years of practice or further study in the specialty is also required.

11. Neurology (See Psychiatry and Neurology.)

12. Obstetrics and Gynecology

Institutions offering residencies or fellowships in obstetrics and/or gynecology must provide gynecological and/or obstetric facilities adequate for the clinical and teaching needs of the service. They should also furnish sufficient teaching material to afford residents a wide experience in clinical diagnosis, treatment, and technical and operative procedures.

Emphasis should be placed on clinical training in order that residents may receive ample instruction in the various phases of obstetric and gynecologic service, such as antepartum care, treatment of toxemias of pregnancy, management of normal and abnormal labor, technic of versions, breech extractions and instrumental delivery, diagnosis and treatment of the complications of labor, postpartum hemorrhage, puerperal infections, varieties of cesarean section and their indications, medical gynecology and its relation to endocrinology, minor procedures for ambulatory patients, and standard operations. Courses of instruction should include assignments in pathology, demonstrations on the manikin, departmental seminars, clinical-pathologic conferences and teaching rounds. Training in surgical technic should be sufficient to enable residents to undertake operative

work on their own responsibility especially toward the end of the residency program. Prenatal and follow-up clinics are essential to the program.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—Ordinarily an admission rate of 400 patients a year is desirable in each of the fields of obstetrics and gynecology whether these are separate or combined services.

Applied Basic Science Instruction.—Applied anatomy, bacteriology, biochemistry, embryology, pathology and physiology are especially desirable and should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Obstetrics and Gynecology requires candidates for the certification examination to have completed a year of internship and seven years of practice including at least three years of acceptable training in obstetrics and gynecology. Although an applicant may be practicing primarily in one of the branches (obstetrics or gynecology), a knowledge of the fundamentals of the other branch is required.

13. Occupational Medicine

Residencies and fellowships in this field should be organized in the light of the principal components of occupational medicine: health conservation, occupational medicine and surgery, environmental hygiene and administration. To provide such training there should preferably be a combination of hospital and industrial in-plant assignments.

The hospital shall meet the general requirements for residency approval. There should be organized services in the hospital under competent staff direction in internal medicine, dermatology, ophthalmology, traumatic surgery, neurology and psychiatry. A well equipped rehabilitation center should be supplied. A hospital affiliated with a medical school or school of public health is in an especially favorable position to offer an acceptable program.

The collaborating industrial medical department, providing in-plant training, should be of sufficient size and scope to accommodate the requirements of the plant and shall be under full time medical direction. The medical director should derive his authority in the plant from the officer directly responsible for policy and operations. The plant should provide facilities and equipment and teaching material required for the training of a resident. Dressing and examination rooms, clinical and x-ray laboratories, wards and departments of physical medicine should be available. Physicians in training should become familiar with records pertaining to (1) individual medical services and examinations, (2) plant inspections and technical industrial hygiene studies and (3) absentee analysis and control measures. A well equipped laboratory and library of industrial hygiene should be readily accessible in the plant or through close affiliation with appropriate laboratories and libraries outside the plant. Monthly and annual summary reports should be prepared outlining the work of the department.

There is no certifying board in this field.

14. Ophthalmology

Acceptable residencies in this field should include active clinical experience in the diagnosis, therapy and surgery of ophthalmic disorders. There should be adequate experience with refraction, disorders of motility and binocular vision, perimetry, ophthalmoscopy, retinoscopy and the use of the slit lamp. There must be adequate equipment and facilities for such work. There should be an active consultation service provided to other departments of the hospital.

A systematic course of instruction should be offered with regular lectures and demonstrations in clinical and operative ophthalmology. Instruction in surgical technic should be sufficient to enable residents to undertake operative work on their own responsibility, especially toward the end of the training period.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—Ordinarily a minimum of 150 admissions and 1,500 outpatient visits a year is considered necessary for residency training in this specialty.

Applied Basic Science Instruction.—Histologic and pathologic material should be available for demonstration and individual study. Applied basic science work in anatomy, bacteriology, embryology, histology, pathology, pharmacology and physiology as relates to the eye should be included in the training program. Such work should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Ophthalmology requires candidates for the certification examination to have completed an internship of one year and a period of combined study, training and practice of not less than three years. A combined service in ophthalmology and otolaryngology should fulfill the requirements listed under each department except that five years of training and experience should constitute the minimum time required for certification in both fields.

15. Orthopedic Surgery

Surgical and orthopedic facilities must be satisfactory and clinical material sufficient to afford residents adequate experience in the correction of congenital and acquired deformities and in the treatment of fractures and other acute and chronic disorders which interfere with the proper function of the skeletal system and its associated structures. Residents should become thoroughly familiar with all methods of diagnosis and treatment, corrective exercises, physical medicine, operative procedures and the use of orthopedic appliances. Instruction in surgical technic should be sufficient to enable residents to undertake operative work on their own responsibility, especially toward the end of the residency program. Clinical instruction should include teaching rounds and departmental conferences.

Residencies may be organized in the fields of adult orthopedics, children's orthopedics, fractures or in combinations of these. As preliminary training the Council recommends one year of general surgery in addition to the internship.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—Both hospital and outpatient facilities are desirable, and institutions offering residency instruction should treat a minimum of 200 patients annually.

Applied Basic Science Instruction.—Anatomy, bacteriology, biochemistry, embryology, pathology and physiology are especially desirable and should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Orthopaedic Surgery requires candidates for the certification examination to have completed one year of internship, three years of concentrated training in orthopedic surgery and two years of subsequent practice in this special field. The training period should consist of balanced training in the fields of adult orthopedics, children's orthopedics, fractures and the applied basic sciences. Candidates may substitute a year of adult orthopedics and fractures for work in children's orthopedics. Candidates applying for certification after January 1, 1951, must also have completed an approved surgical residency of one year following the internship.

16. Otolaryngology

Residencies and fellowships in otolaryngology should aim to provide adequate clinical and operative experience. Essential equipment for diagnosis and surgery should be available, including an audiometer and other special apparatus depending on the scope of the service. The clinical material should be sufficient in variety and amount to provide adequate training in the various divisions of the service, which might advantageously include the field of bronchoscopy.

The training should include a systematic course of instruction with demonstrations on clinical and technical subjects pertaining to the various phases of otolaryngology. Instruction in surgical technic should be sufficient to enable residents to undertake operative work on their own responsibility, especially toward the end of the residency program.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—Ordinarily a residency program in otolaryngology requires clinical experience in a hospital which affords in the specialty a minimum of 400 admissions a year and at least 3,500 visits in the outpatient department.

Applied Basic Science Instruction.—There should be training in the applied anatomy of the ear, nose, throat, neck, chest and esophagus including the related nervous systems. Applied bacteriology, embryology, pathology, pharmacology and physiology should also be included and should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Otolaryngology requires candidates for the certifying examination to have an approved internship and three years of advanced preparation. A combined service in ophthalmology and otolaryngology should fulfill the requirements listed under each department except that five years of training and experience should constitute the minimum time required for certification in both fields.

17. Pathology

Residencies and fellowships, in contrast to the shorter courses for basic training in pathology, are ordinarily of one to three years' duration. The teaching material must be sufficient in kind and amount to afford residents adequate training in all divisions of the field including both gross and microscopic pathology. Systematic instruction should be carried out with the use of fresh material and collections of slides and museum specimens for comparative studies in histology and pathology. As the training continues an increasing amount of responsibility should be assigned to the residents in tissue diagnosis, in actual performance of postmortem examinations and in the preparation of pathologic reports and necropsy protocols. Further instruction should be obtained through active participation in clinical-pathologic conferences, staff meetings and joint conferences with other departments.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

The relationship of the pathology service to residencies and fellowships in other fields is given in Section I-3.

Quantitative Requirements.—At least 100 necropsies a year should be performed in institutions offering residencies or fellowships in pathology.

Board Requirements.—The American Board of Pathology requires candidates for the certification examination to have completed, in addition to the internship, a period of study of at least three calendar years, including one year in the various phases of clinical pathology and not less than two years of training and experience in a department of pathologic anatomy. Such training may be combined or in sequence. An additional year of training or practice in pathology is likewise required.

18. Pediatrics

Clinical training should be obtained in general medical pediatrics, nutritional disorders, care of newborn infants, preventive pediatrics and outpatient clinics in the various departments of medical pediatrics. Correlative studies are recommended especially in contagious diseases, in clinics for well babies, the mentally deficient and in those with neurologic disorders or who present problems in behavior. In the wards and in the clinics the residents should be permitted to assume individual responsibility in diagnostic and therapeutic procedures and case management. They should actively participate in teaching rounds, clinical-pathologic conferences, departmental seminars and all other functions designed to improve the quality of the clinical and educational service. Although the training need not be continuous or in the same institution, it is desirable that the educational program be systematized in the form of residencies of one to three years' duration.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—To supply an adequate amount and variety of teaching material a department should provide a minimum of approximately 400 annual admissions in general medical pediatrics.

Applied Basic Science Instruction.—Sufficient time should be devoted to studies in applied basic sciences, especially in embryology, growth and development, nutrition, and other fields in physiology bearing upon pediatrics. This work should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Pediatrics requires candidates for the certification examination to have completed five years of training and practice after graduation from an approved medical school. The requirements include an approved internship of one year, a service of two years of acceptable training in pediatrics which may include a six months residency in contagious diseases and two additional years of specialized study or practice. Physicians who have met the requirements for certification in this field may seek further certification by this board in the special field of allergy, or certification in cardiovascular disease by the American Board of Internal Medicine.

Allergy. (See also Allergy under Internal Medicine.)—The objective of intensive training in allergy is to fit the physician for the highest type of practice, teaching and research in this specialty. An allergy residency should be at least one, though preferably two years of full time work. Residents in allergy should be given a thorough training in the fundamentals of human and animal sensitization through clinical study and laboratory experiments. There should be daily conferences or consultations with the staff. Reading of current articles and reviews of special topics should be assigned. Residents should be given responsibility for diagnosis and management of various diseases of allergy, for the teaching of interns, medical students and nurses as capability has been demonstrated. Problems in clinical or laboratory allergy should be utilized to develop an interest in research.

If the allergy service is a separate department, it should have interdepartmental associations so arranged as to give residents of the allergy unit continuing contact with the pediatric (or general medical) services through ward rounds, clinical-pathologic conferences, staff meetings, and so forth. The service should admit 200-300 ambulatory patients yearly, and have facilities for hospitalizing bed patients, in addition to cases seen in consultation with other services. It should have adequate laboratory facilities for those special chemical-immunologic, pathologic and bacteriologic procedures required in its field. The training of residents in allergy should be arranged to fit into the established programs of the American Boards of Pediatrics or Internal Medicine. Candidates for positions offering specialized training in allergy should previously have fulfilled the basic requirements of the parent board before undertaking study in the special field.

Certification in allergy is granted only to those who have previously fulfilled all the requirements for certification in pediatrics or internal medicine, including the examination.

19. Physical Medicine

The field of physical medicine includes all clinical and diagnostic uses of physical agents except those employed in radiology. Consequently, training and experience should be obtained in all divisions of this specialty including rehabilitation, sheltered work shop experience and occupational therapy. Mastery of the basic sciences and the technics used in physical therapy are essential, and experience in using these technics as

well as supervising others in their use should be included in the experience of the resident. Orthopedic, psychiatric, tuberculous, general medical, general surgical and pediatric patients receiving physical therapy should be assigned to the department.

Adequate space and apparatus should be furnished in the department for all phases of the work. The clinical material should be sufficient in kind and amount to enable the residents and fellows to observe and study all forms of treatment in physical medicine. Both inpatient and outpatient clinical material should be available.

As the resident progresses in this training program, a broader type of experience should be gained with increasing responsibilities in the functioning of the department, teaching various personnel, research, liaison with other departments and vocational counseling.

A minimum of three years of such training is generally considered necessary for a physician to become competent in the field of physical medicine. If a hospital is not equipped to offer this entire program, occupying three years, shorter training periods of one or two years may be organized or affiliations may be made with other units where the training and experience can be obtained on a full time assignment.

20. Plastic Surgery

Adequate training and experience in plastic surgery should include experience in the various methods of plastic surgery of the scalp, face, jaw, neck, trunk and extremities. The resident should obtain experience in the various methods of skin, pedicle, flap, soft tissue and cartilage grafting. If the department of plastic surgery does not perform reconstruction operations on joints, tendons, nerves, perineum, extrophies or hypospadias it might be desirable to have the residents in training for plastic surgery witness such operations and study the progress of patients with such disorders.

Training in plastic surgery should be preceded by an approved internship and two years of residency training in general surgery, in which the resident becomes familiar with basic principles and procedures common to all surgery.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—A minimum of 150 individual plastic surgery patients cared for during the year is desirable to provide sufficient clinical material for the residents.

Applied Basic Science Instruction.—Applied basic science work in anatomy, bacteriology, biochemistry, pathology and physiology as related to plastic surgery should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Plastic Surgery requires candidates for the certification examination to have an approved internship of one year and at least six additional years of special training and practice as follows: two years of residency training in general surgery, two years of residency training in plastic surgery, and two additional years of practice or study in surgery a fair percentage of which shall be in plastic surgery.

21. Proctology (See Surgery.)

22. Psychiatry and Neurology

Residencies may be offered in either of these fields separately or in a combination of the two. In the training program, which may be of one to three years duration, depending upon the resources of the institution, emphasis should be placed on the educational features of the service, and the residents should receive regular insfruction from members of the staff in general orientation in the specialty and diagnostic and therapeutic procedures and methods of clinical study, as well as in the organization of ward services. Administrative details and "paper work" should be kept within bounds so that the residents may employ their time in the study and treatment of neurologic and psychiatric disorders. Emphasis should be placed on the study of etiology, pathogenesis, symptomatology and course of the various diseases so that the residents may develop skill and accuracy in diagnosis, as well as mature judgment based on knowledge of the natural history of the diseases, and resourcefulness in therapy. There should be organized instruction in the fundamentals of psychopathology, psychotherapy and the dynamics of mental or emotional illness.

A rotating assignment in psychiatry is essential to give residents adequate experience in the various phases of in and outpatient psychiatry. Residents in psychiatry and neurology should have adequate contacts with other services, such as general medicine, pediatrics, tuberculosis services and so forth, so that they may become familiar with psychiatric and neurologic complications of general disease. Whenever possible neurologic residents should follow their patients through whatever neurosurgical operations are performed in the hospital. Teaching rounds, clinical and pathologic conferences and seminars are essential for clinical instructions in both fields.

The clinical material must be adequate in kind and amount. Too small a number of admissions prevents proper survey of the field of psychiatric and neurologic disorders. Numbers which are too large are incompatible with the adequate study of the patients admitted.

Some six months in specialized institutional psychiatry (feeble-minded, epileptic, penologic, drug and alcohol, and so forth) is of great value to the psychiatric residents as is six months of even half time duty in child psychiatry and experience in working with psychologists and psychiatric social workers.

It must be emphasized that residencies in psychiatric and neurologic hospitals are educational in character and that, of the full time psychiatric or neurologic staff of such hospitals, only those physicians who serve primarily on an educational basis come within the residency classification of the Council.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—The clinical material must be adequate in time and amount. Between 200 and 400 admissions a year per resident is considered desirable.

Applied Basic Science Instruction.—There should be instruction in the application to psychiatry and neurology of the basic sciences of anatomy, physiology and pathology. Such work should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Psychiatry and Neurology certifies physicians in either or both of these fields. Specialized training and experience of at least five years after the internship is essential to qualify for the certification examinations in neurology or in psychiatry. The requisite training consists of three full years of approved residency training after the general internship and two additional years of practice and experience in psychiatry or neurology or both. To qualify in both fields a minimum of seven years is required.

23. Pulmonary Diseases (See Internal Medicine.)

24. Radiology

Residencies and fellowships of three years duration should provide training in all divisions of the specialty—diagnostic roentgenology, therapeutic roentgenology and radium therapy. Without attempting to define a detailed plan of instruction it can be suggested that the first year be devoted principally to pathology, roentgenologic technic and a general orientation in the radiologic field. In the second and third years the clinical applications of radiology should be emphasized with at least six months assigned exclusively to radiotherapy. In view of the importance of pathology as a basis for radiologic diagnosis and therapy it is recommended that a minimum of six months be devoted to pathologic anatomy, particularly the study of gross pathology and tumors. Instruction in radiophysics and radiobiology may well run concurrently with the training in radium therapy and therapeutic roentgenology.

Residencies in a restricted field of radiology can likewise be modeled on this plan. The training should be systematic and progressive in character with gradual assignment of responsibility in both diagnosis and therapy. It should also include an active participation in radiologic conferences, staff meetings, and joint conferences with other departments. An adequate amount of clinical material must be available in the divisions of radiology in which residency or fellowship training is offered.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

The relationship of the radiology department to residencies and fellowships in other fields is stated in section I-2.

Quantitative Requirements.—The quantitative requirements in this field depend upon the field of radiology in which training is undertaken. In residencies covering the entire field of radiology, it is desirable that there be a minimum of approximately 3,500 roentgenographic examinations per year, 1,500 x-ray therapeutic procedures and 100 radium treatments.

Applied Basic Science Instruction.—In the applied basic sciences, emphasis should be placed on instruction in pathologic anatomy, radiophysics and radiobiology. Such work should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Radiology certifies physicians in (*a*) the entire field of radiology, (*b*) roentgenology, (*c*) diagnostic roentgenology, and (*d*) therapeutic radiology. An applicant for the certification examination must have completed a period of study after the internship of at least three years in an approved institution. This period of specialized training should include an active experience in radiology of not less than twenty-four months and residency instruction in pathologic anatomy, radiophysics and radiobiology.

25. Surgery

Residencies and fellowships in surgery may be from one to five years' duration but need not necessarily be confined to one institution. Individual residencies may be conducted in general surgery, neurological surgery, plastic surgery, thoracic surgery, proctology and other surgical divisions now organized as independent specialties. As preliminary training for residencies and fellowships in such specialties as neurological surgery, orthopedic surgery, plastic surgery, thoracic surgery and urology the Council recommends at least one year of general surgery in addition to the internship.

All surgical departments can readily subscribe to the same general plan of training, although their scope of service may show considerable variation. Training in most of the surgical specialties is ordinarily limited to one division, but residencies in general surgery may well encompass the entire surgical field with the possible exception of ophthalmology and otolaryngology.

It is essential that adequate supervision be maintained by a competent department head responsible for the organization of the residency program. He should personally direct the plan of clinical and operative training but may well rely on qualified assistants to supervise certain details of the educational service. Residencies and fellowships should emphasize careful training in diagnosis, preoperative therapy and postoperative care. This requires systematic bedside instruction, correlation of clinical and operative data, the study of gross and microscopic pathology and collateral reading. Supplementary instruction should be furnished in the form of departmental seminars, teaching rounds and clinical-pathologic conferences, usually on a weekly basis. Surgical training should be obtained under the careful guidance and supervision of competent specialists. It should be sufficient in amount to insure a reasonable degree of technical proficiency and thus enable the residents to undertake operative work on their own responsibility, especially toward the end of the residency program.

Equipment and facilities for general and special surgery must be adequate to meet the needs of the service. The clinical material should likewise be sufficient to furnish adequate experience and training in diagnosis, therapy and operative technic.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—The general surgical service in an approved residency should provide approximately 400 annual admissions per resident. A smaller number of admissions might suffice for such surgical work as might be done in a specialized field of surgery, but even in the most limited of these specialties there should be at least 150 patients treated annually.

Applied Basic Science Instruction.—Experience in applied anatomy, bacteriology, biochemistry, pathology and physiology as pertains to surgery should be included in the residency program and should be closely correlated with clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Surgery requires candidates for the certification examination to have completed an approved internship and at least five additional years of special training in surgery. Two years of training credit may be allowed for work in an approved residency in one of the more specialized fields of surgery, such as neurological surgery, plastic surgery or thoracic surgery. Physicians who have fulfilled the requirements for certification in surgery, including the examination, may qualify for further certification in the field of proctology by the American Board of Surgery.

Proctology.—Residencies in this field of surgery may be offered, preceded usually by three years training in general surgery. The training in proctology should be systematic and progressive, including adequate training in proctologic examinations, in diagnosis, in therapy, in x-ray interpretations, and in operative procedures, under the supervision of a well qualified proctologist. Teaching rounds, departmental conferences and clinical-pathologic conferences are essential for systematic clinical instruction. There should be adequate facilities for proctologic examinations and diagnostic work and for proctologic surgery of all types. The training in surgical technic should be sufficient to enable residents to undertake operative work on their own responsibility, especially toward the end of the residency program. The clinical material should be sufficient in amount and variety as to fulfil the teaching needs of the service. It is generally assumed that a minimum of 150 hospital patients a year are necessary for advanced training in proctology. This number of patients should be supplemented by outpatient material.

Instruction in the applied basic sciences can readily be integrated with the clinical teaching. Particular emphasis should be placed on the study of parasitology and pathology and residents might well be required to examine both grossly and microscopically all specimens removed during their term of service.

To qualify for the certification examination in proctology the candidate must first fulfil the certification requirements of the American Board of Surgery, including the examination. One or two years of the surgical training should be in the special field of proctology.

26. Thoracic Surgery (See Surgery.)

27. Urology

Residency instructions in urology should be systematic and progressive in character to the end that adequate training may be obtained in diagnosis, therapy, cystoscopic examinations, pyelography and operative procedures, all under the supervision of a well qualified urologist. Teaching rounds and departmental conferences are essential for systematic clinical instruction. As preliminary training for residencies and fellowships in urology, the Council recommends one year of general surgery in addition to the internship.

The department must provide adequate facilities for surgery and special urologic procedures. Training in surgical technic should be sufficient to enable residents to undertake operative

work on their own responsibility, especially toward the end of the residency program.

The clinical material should be sufficient in amount and variety to fulfil the teaching needs of the service. Hospital patients should be supplemented by outpatient material in cystoscopic and general urologic clinics. Access to gonorrheal clinics would also be of advantage.

See also the General Requirements for all residencies as given in Section I of these "Essentials."

Quantitative Requirements.—Ordinarily a minimum of 200 inpatients a year is necessary for acceptable residency training in urology.

Applied Basic Science Instruction.—Instruction in the applied basic sciences can readily be integrated with the clinical experience. Particular emphasis should be placed on the study of pathology, and residents might well be required to examine both grossly and microscopically all urologic specimens removed during their term of service. There should also be instruction in applied anatomy, bacteriology and physiology as related to urology. Such work should be closely correlated with the clinical experience. See Section I-9 of these "Essentials" for a discussion of applied basic medical science instruction.

Board Requirements.—The American Board of Urology requires candidates for the certification examination to have completed a minimum of five years of surgical and urologic training and practice after the internship. This period of preparation should include at least eighteen months of urologic training and not less than two additional years of practice in urologic surgery.

III. RESIDENT-INTERN RELATIONSHIPS

Those hospitals training both residents and interns should recognize their responsibility to both groups and not curtail too sharply the opportunities ordinarily given to interns by an excess of solicitude for the residents. After some experience the residents may, with profit, participate in the teaching of the interns, the supervision of their records and the direction of the therapy which interns administer. Residents should not, however, act so as to diminish the contact of the interns with the attending men or assume the supervisory or disciplinary functions of the staff intern committee.

IV. RECORDING OF CREDIT

The successful completion of a residency or fellowship is recorded in the biographic files of physicians maintained by the American Medical Association. It is important, therefore, that all institutions approved for fellowships and residencies in specialties make an annual report to the Council on Medical Education and Hospitals of the American Medical Association. Periods of service in institutions approved by the Council for fellowships and residencies in specialties are given full credit in the biographic files without further inquiry. Services in unapproved institutions are recorded as unclassified assignments.

There is an extensive interchange of information and close collaboration between the Council on Medical Education and Hospitals, the various American Boards responsible for the examination and certification of the specialists and the Advisory Board for Medical Specialties. In this way the study and appraisal of residencies and fellowships leads to the formulation of lists approved by the Council and acceptable to the respective boards. These lists may be obtained from the Council on request. In most instances there is indicated for the hospitals on the approved lists, the amount of credit (one to three or more years) which is allowed by the appropriate American board toward qualifying for the certification examination.

The specialty boards listed below have been approved by the Council in accordance with the following resolutions of the House of Delegates:

Resolved, That the Council on Medical Education and Hospitals is hereby authorized to express its approval of such special examining boards as conform to the standards of administration formulated by the Council; and be it further

Resolved, That the Board of Trustees of the American Medical Association be urged to use the machinery of the American Medical Association, including the publication of its Directory, in furthering the work of such examining boards as may be accredited by the Council. (See the Council's "Essentials for Approved Examining Boards in Specialties.")

American Board of Anesthesiology,
Paul M. Wood, M.D., Secretary-Treasurer,
745 Fifth Avenue, New York 22.

American Board of Dermatology and Syphilology,
George M. Lewis, M.D., Secretary,
66 E. 66th Street, New York 21.

American Board of Internal Medicine,
W. A. Werrell, M.D., Assistant Secretary,
1 West Main St., Madison 3, Wis.

American Board of Neurological Surgery,
W. J. German, M.D., Secretary,
310 Cedar Street, New Haven, Conn.

American Board of Obstetrics and Gynecology,
Paul Titus, M.D., Secretary-Treasurer,
1015 Highland Bldg., Pittsburgh 6.

American Board of Ophthalmology,
S. Judd Beach, M.D., Secretary,
56 Ivie Road, Cape Cottage, Me.

American Board of Orthopaedic Surgery,
F. M. McKeever, M.D., Secretary,
1136 W. 6th St., Los Angeles 14.

American Board of Otolaryngology,
Dean M. Lierle, M.D., Secretary,
University Hospitals, Iowa City.

American Board of Pathology,
Robert A. Moore, M.D., Secretary-Treasurer,
Kingshighway and Euclid Ave., St. Louis 10.

American Board of Pediatrics,
Lee F. Hill, M.D., Secretary,
3309 Forest Ave., Des Moines, Iowa.

American Board of Plastic Surgery,
Louis T. Byars, M.D., Secretary-Treasurer,
508 N. Grand Blvd., St. Louis, Mo.

American Board of Psychiatry and Neurology,
Francis J. Braceland, M.D., Secretary,
102 Second Ave., S.W., Rochester, Minn.

American Board of Radiology,
Byrl R. Kirklin, M.D., Secretary-Treasurer,
102 Second Ave., S.W., Rochester, Minn.

American Board of Surgery,
J. Stewart Rodman, M.D., Secretary-Treasurer,
225 South 15th Street, Philadelphia 2.

American Board of Urology,
Harry Culver, M.D., Secretary-Treasurer,
1409 Willow Street, Minneapolis 4.

Certain of the boards certify physicians in subspecialties, as follows: internal medicine, in allergy, cardiovascular disease, gastroenterology and pulmonary diseases; pediatrics, in allergy; surgery, in proctology. Candidates for certification in these special fields must first fulfil the general certification requirements of the American board concerned, including the examinations.

Physicians who take hospital residencies or fellowships and who may later seek certification by an American board should communicate with the secretary of the board at the outset of the residency training, to be fully conversant with all the requirements.

V. ADMISSION TO THE APPROVED LIST

Procedures for considering an institution for approval of a residency for training in a recognized specialty are as follows:

The institution should make application to the Council on Medical Education and Hospitals of the American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

The Council provides application blanks and arranges to conduct a survey of the institution to determine whether the residency fully complies with the standards set forth in these "Essentials."

The Council prepares a report on its survey findings and conclusions which is submitted to the specialty board concerned for its recommendations. Approval is granted by the Council when it is satisfied that the training provided is entirely satisfactory and also acceptable for the purpose of preparation for examination by a specialty board.

Recognition may be withdrawn whenever it appears that the institution no longer conforms to these "Essentials" or when the positions remain vacant for a period of two or more years.

APPROVED EXAMINING BOARDS IN MEDICAL SPECIALTIES

An American board in a specialty is organized (*a*) to assist in improving the quality of graduate education in that field, (*b*) to establish minimum educational and training standards in the specialty, (*c*) to determine whether candidates have received adequate preparation, (*d*) to provide comprehensive examinations to determine the ability and fitness of such candidates and (*e*) to certify to the competence of those physicians who meet these requirements.

In 1933 the Council on Medical Education and Hospitals was authorized by the House of Delegates of the American Medical Association to formulate standards and to approve examining boards in the specialties which meet these standards. These standards were formulated and ratified by the House of Delegates in 1934. The most recent revision of these Essentials was approved Dec. 9, 1946.[1] The minimum requirements for certification were not increased, but various sections were rewritten for clarification. The "Essentials" outline the purpose and function of a specialty board, organization, definition of special fields, qualifications of candidates including professional education and special training, procedure to follow in the establishment of an acceptable board, mechanism for approval of a residency in a recognized specialty and withdrawal of approval to holders of certificates or from institutions offering residency training.

In 1933-1934 the Advisory Board for Medical Specialties was organized with representatives from each of the approved boards to "act in an advisory capacity to such organizations as may seek its advice concerning the coordination of the education and certification of medical specialists." The Council on Medical Education and Hospitals and the Advisory Board for Medical Specialties work in close collaboration through joint meetings and frequent conferences.

Prior to 1934 there were five examining boards in the medical specialties functioning, and since 1940 fifteen boards have been in operation. All these boards are fully approved by the Council. A key number has been designated for each board, such as A. B. 1, and the biographic records of physicians published in the American Medical Directory include by this means reference to those certified by these boards.

Each of the American boards has published a booklet containing a brief statement regarding its personnel, organization, purposes and qualifications for eligibility for certification. The current data pertaining to each board is reproduced in the following pages. There is also included the regulations of the Advisory Board for Medical Specialties.

In 1946 three boards certified candidates in subspecialties. The American Board of Internal Medicine certified in allergy, cardiovascular disease, gastroenterology and pulmonary diseases (formerly called tuberculosis). Similarly the American Board of Surgery certified specialists in proctology. The American Board of Pediatrics has developed procedures for certifying pediatricians in allergy and has certified five physicians to date. Regular board certification is a prerequisite for certification in the subspecialty. This function of these boards in internal medicine, surgery and pediatrics certifying specialists in the subspecialties is also approved by the Council. These subspecialties are fully recognized by the Council on Medical Education and Hospitals of the American Medical Association. As such they are appropriate fields in which to organize residency training when the facilities warrant. Approved training programs will be listed under these headings in the Council's official list of approved residencies whenever the subspecialty board so desires. The list of hospitals offering "Approved Residencies and Fellowships in the Specialties" also appears in this issue.

A list of the approved specialty boards and the number of certificates awarded prior to March 1, 1946 and the number certified to March 1, 1947 respectively appear in table 29. On March 1, 1946 there were 26,072 physicians certified by the fifteen boards, and in the year ended March 1, 1947, 2,404 were certified. Up to this date a total of 28,476 had been certified.

TABLE 29.—*Approved Examining Boards in Medical Specialties*

Key No.	Name of Board	Year of Incorporation	Total Certificates Awarded to March 1, 1946	Total Certificates Awarded to March 1, 1947
A.B. 1.	American Board of Pediatrics	1933	2,420	2,572
A.B. 2.	American Board of Psychiatry and Neurology	1934	1,993	2,438
A.B. 3.	American Board of Orthopaedic Surgery	1934	940	1,042
A.B. 4.	American Board of Dermatology and Syphilology	1932	753	844
A.B. 5.	American Board of Radiology	1934	2,198	2,366
A.B. 6.	American Board of Urology	1935	1,050	1,136
A.B. 7.	American Board of Obstetrics and Gynecology	1930	1,965	2,137
A.B. 8.	American Board of Internal Medicine	1936	3,906	4,449
A.B. 9.	American Board of Pathology	1936	1,240	1,359
A.B. 10.	American Board of Ophthalmology	1917	2,490	2,564
A.B. 11.	American Board of Otolaryngology	1924	3,886	3,988
A.B. 12.	American Board of Surgery	1937	2,620	2,904
A.B. 13.	American Board of Anesthesiology	1938	278	316
A.B. 14.	American Board of Plastic Surgery	1937	163	171
A.B. 15.	American Board of Neurological Surgery	1940	170	190
	Totals		26,072	28,476

Included in the 28,476 certified in major specialties are 882 who were also certified in subspecialties by the boards in internal medicine, pediatrics and surgery as follows:

Internal Medicine	
Allergy	95
Cardiovascular Disease	361
Gastroenterology	183
Pulmonary Diseases (formerly called "Tuberculosis")	163
Pediatrics	
Allergy	5
Surgery	
Proctology	75
Total	882

The greatest number in any one specialty were certified in internal medicine: 4,449 to March 1, 1947. Of this number 543 were certified in the past year. During the past year also 445 were certified by the board in psychiatry and neurology, bringing the total certified by this board to 2,438. Significant increases in the last year were also noted in surgery (284), obstetrics and gynecology (172), radiology (168) and pediatrics (152). Neurological surgery certified 20 and plastic surgery 8. The oldest board in existence, ophthalmology (organized in 1917) certified 74 last year, bringing the total certified to date to 2,564. Heretofore the greatest number certified in any one specialty

1. J. A. M. A. **134**: 288 (May 17) 1947.

was in otolaryngology. In this specialty 3,988 have received the board's certificate since its organization in 1924.

Table 30 gives the annual number of specialists certified by all boards for the past seven years and the accumulated totals. The largest number (2,404) obtained certificates in the period from March 1, 1946 to March 1, 1947. Of all those physicians now certified, 12,623 (44 per cent) received their specialty credentials in the past seven years.

TABLE 30.—*Annual Specialty Board Certifications Since 1940*

Year (Ended March)	Number of Boards in Existence	Number Certified That Year	Accumulated Totals
1940	14	.....	15,853
1941	15	2,085	17,938
1942	15	1,756	19,694
1943	15	2,172	21,866
1944	15	1,578	23,444
1945	15	1,308	24,752
1946	15	1,320	26,072
1947	15	2,404	28,476

Ten boards recognize training with a qualified preceptor as a substitute for special clinical training. The policies of the boards toward the acceptance of such training are briefly outlined in table 31. The time credit allowed varies but in all instances is decided on an individual basis. The individual facilities and teacher qualifications of the preceptor must be approved by the respective board. This type of training is not accepted by five boards.

TABLE 31.—*Specialty Board Credit for Preceptorship Training*

		Preceptor Limitations			
	Credit Awarded	Any Certified Board Member	Other Than Certified Board Member	List of Preceptors Maintained	Maximum Clinical Training Credit
Anesthesiology	Yes	No[1]	Yes (rarely)[1]	No	2 years
Dermatology and syphilology	Yes	No[1]	No	Yes	[3]
Internal medicine	No	...	...	...	.....
Neurologic surgery	Yes	No[1]	No	No	No limit set
Obstetrics and gynecology	Yes	Yes	Yes[1]	No	No limit set
Ophthalmology	Yes	No[1]	Yes[1]	No	No limit set
Orthopedic surgery	Yes	Yes	No	No	3 years
Otolaryngology	Yes	Yes	Yes[1]	No	5 years [4]
Pathology	No	...	...	...	.....
Pediatrics	No	...	...	...	.....
Plastic surgery	Yes	Yes	No	No	Full credit
Psychiatry and neurology	No	...	...	...	.....
Radiology	No	...	...	...	.....
Surgery	Yes	No[1]	No	No	2 years
Urology	Yes	Yes[2]	No	No	3 years

1. Facilities and teacher qualifications must be approved by board.
2. Board member must certify training facilities are adequate and must certify at end of training period that candidate has had adequate training.
3. Two years, half time, one half of each day being spent in an approved institution; or one year full time in the preceptor's office in localities where approved institutions are not available.
4. Six years required after July 1950.

Only four of the boards will give consideration to preceptor training carried out under a qualified specialist who is not himself certified by the appropriate board. One board maintains a list of preceptors.

The third edition of the "Directory of Medical Specialists," compiled by the Advisory Board for Medical Specialties, was published in 1946 and includes biographic data pertaining to the graduate educational background of each of the specialists certified by an American board. This directory lists 24,028 specialists certified prior to November 1945 and represents only those living at the time of publication but includes those retired from active practice.

AMERICAN BOARD OF ANESTHESIOLOGY

RALPH M. TOVELL, President, Hartford, Conn.
E. A. ROVENSTINE, Vice President, New York.
PAUL M. WOOD, Secretary-Treasurer, 745 Fifth Avenue, New York.
JOHN S. LUNDY, Rochester, Minn.
CHARLES F. MCCUSKEY, Los Angeles.
HENRY S. RUTH, Philadelphia.
MEYER SAKLAD, Providence, R. I.
H. BOYD STEWART, Tulsa, Okla.
RALPH M. WATERS, Madison, Wis.
T. DRYSDALE BUCHANAN, New York (Deceased)

HISTORY

The plan for this organization was devised . . . by a committee representing The American Society of Anesthetists, Inc., The American Society of Regional Anesthesia, Inc., and the Section on Surgery of The American Medical Association. These organizations adopted the tentative plans submitted, and the formation of The American Board of Anesthesiology, Inc., an affiliate of The American Board of Surgery, Inc., was completed on June 2, 1937. The Advisory Board for Medical Specialties, and the Council on Medical Education and Hospitals of the American Medical Association approved affiliation in 1938.

In 1941 the Advisory Board for Medical Specialties approved the establishment of The American Board of Anesthesiology, Inc., as a separate major board, with the unanimous consent of the participating societies and the surgical boards which are members of the Advisory Board.

Persons certified by this board (Diplomates) are designated "AB-13" in the directory and biographical departments of the American Medical Association, or "D.A.," Diplomate of The American Board of Anesthesiology, Inc.

PURPOSES

1. To establish criteria of fitness to be designated a specialist in the practice of anesthesiology.

2. To improve educational facilities and practice in medical schools and hospitals, furnish lists of these together with lists of individual instructors who give adequate instruction and training in anesthesiology.

3. To arrange, control, and conduct examinations to determine the qualifications, and grant a certificate to those who voluntarily apply and meet the required standards. Such certification will serve to provide the public and the professions with the opportunity to select the best available service (conferring of degrees is a prerogative of the universities, and the board of anesthesiology makes no attempt to grant degrees, regulate or control the practice of anesthesiology by license, or restriction).

VALUE OF CERTIFICATE

The organizations which participate in forming this board and sponsoring its activities as well as other societies or institutions, attach considerable importance to its certificate. The medical and lay public, as well as hospital directors, utilize the certification by this board in determining those who are well qualified as specialists in anesthesiology.

Although the directory of the American Medical Association indicates those practicing in the various specialties, the lists of holders of certification by specialty boards are available in the form of the Directory of Medical Specialists.

The American Board of Anesthesiology is willing to cooperate with institutions and individuals in preparing plans for instruction in anesthesiology and in offering suggestions for the organization of new departments in the specialty.

QUALIFICATIONS FOR ELIGIBILITY TO CERTIFICATION

A. *General.*—1. An applicant's moral and ethical standing in the profession must be satisfactory to the entire board. The board must be assured that the applicant is engaged in the practice of anesthesiology as a specialty and that he intends to continue to be so engaged.

2. Membership is required in the American Medical Association or membership in such other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association. Membership in other societies shall not be required.

3. Practice must have been *limited* to anesthesiology for five calendar years of which at least two *must* have been devoted to special training.

4. In exceptional instances the board may, in its discretion, accept for examination, candidates who have met all the preliminary requirements, and have clearly demonstrated their identity as anesthetists over a period of years, but whose formal training does not comply with the full requirements.

B. *Professional Standing.*—1. An applicant must be a graduate of an approved medical school in the United States or Canada recognized by the Council on Medical Education and Hospitals of the American Medical Association, or must be a diplomate of the National Board of Medical Examiners.

2. Satisfactory evidence must be supplied of completion of an internship of not less than one year in a hospital approved by the same council, or its equivalent in the opinion of the board.

3. An applicant must establish in a manner satisfactory to the board of anesthesiology: that he is a physician duly licensed by law to practice medicine; that he is of high ethical and professional standing; and that he has received adequate training in anesthesiology.

C. *Special Training and Practice.*—1. Before certification the candidate must have had an active experience limited to anesthesiology of not less than five (5) calendar years (including period of training).

2. The board requires the inclusion of at least two years of carefully supervised instruction in the clinical phases of anesthesiology in hospital clinics, dispensaries, and diagnostic laboratories recognized by the Council on Medical Education and Hospitals of the American Medical Association as competent in the teaching and practice of anesthesiology. In addition, instruction in anatomy, physiology, pharmacology, biochemistry and other basic sciences, which are necessary to the proper understanding of the problems involved in the specialty of anesthesiology is required.

EXAMINATIONS

The qualifying examinations will be divided into Part I, written, Part II, oral, and Part III, practical.

PART I

1. An applicant to be eligible for Part I, must meet all training requirements, and his credentials must be approved by the board.

2. Part I may be given simultaneously in several places, which the board may deem suitable for the purpose.[1]

PART II

1. In order to be eligible for Part II, a candidate must have successfully passed Part I.

2. It is probable that Part II examinations will be held near the time and at the place of the annual Convention of the American Medical Association. Later, however, as the demand grows, it may be necessary to establish subsidiary centers where this part may be held.[2]

PART III

1. The examiners will observe the work of the candidates in their own or similar operating room surroundings, their relations to other staff members, and investigate their professional standing.

CONDUCT OF EXAMINATION

Carefully conducted and thorough examinations will be required of candidates. The aim will be to avoid unduly exacting standards above present facilities for study and practice in anesthesiology, and on the other hand, to prevent laxity, which would nullify the main purpose of the certification. Thus the type of examination will depend upon a careful review of the work done, years of practice, special courses of study, and professional standing, of the applicant.

Written examinations will cover such topics as anatomy, biochemistry, physiology, pharmacology, pathology, physical diagnosis, therapeutics, and clinical practice in relation to anesthesiology.

Oral examinations will cover topics in the above list, especially as to their clinical application.

Practical demonstrations will be required of the management of the candidate's clinical practice in his local surroundings. This may include inspection of clinical records, records of departmental activities, library facilities, available apparatus and demonstrations of application of anesthetic agents, methods and all techniques included in anesthesiology.

GRADES

A candidate must receive a passing average for each Part to be entitled to certification. No candidate shall pass a Part who does not receive a grade of 60 per cent or more in each subject of such Part. An average grade of 75 per cent shall be required for passing.

A candidate who fails in his examination in Parts I, II or III may be permitted reexamination at yearly intervals for two (2) consecutive examinations in that part without further payment of fee. The board may, however, for sufficient reasons, deny a candidate the privilege of reexamination.

Applicants who fail to exercise the examination privilege within three (3) years of the date of filing the application and of becoming eligible for examination, are required to file a new application and pay a new application fee.

FEE

The fee shall be $75 (after Jan. 1, 1948—$100). At least $25 shall be paid on filing the application (of which sum $15 will be returned if the candidate is not accepted for examination) and the remainder shall be paid before taking the examinations.

This board is a nonprofit organization. All fees are to be used to extend the existing facilities for training in anesthesiology, after deducting necessary expenses for maintenance of the office, and the conducting of examinations. The board reserves the right to increase the fee when found necessary.

REVOCATION OF CERTIFICATE

All certificates issued by the board shall be subject to revocation by the board at any time, in case it shall determine in its sole judgment that a physician who has received a certificate, either was not properly qualified to receive it or has become disqualified since its receipt.

ADDITIONAL INFORMATION

Every candidate applying for certification must personally appear before the board before being certified.

Application must be made on special blanks which may be procured from the secretary of the American Board of Anesthesiology. They must be completely and accurately filled out, accompanied by the other required credentials and filed with the secretary at least 180 days prior to the date of examination. Before filing, applicants must have completed one year of approved anesthesia residency.

The secretary cannot make any eligibility rulings. These are made only by the entire board on recommendation of the appropriate committees after reviewing the candidate's formal application. Applications cannot be considered for classification and action by these committees unless accompanied by an application fee of $25, $10 of which is not returnable.

Application blanks contain the following statement:

"I hereby make application to The American Board of Anesthesiology, Inc., for the issuance to me of a Certificate of Qualification as a specialist in anesthesiology and for examination relative thereto, all in accordance with and subject to its rules and regulations, and enclose fee of seventy-five dollars ($75).[3] I agree to disqualification from examination or from the issuance of a Certificate of Qualification or to surrender of such certificate as directed by the board, in the event that any of the statements hereinafter made by me are false or in the event that any of the rules governing such examinations are violated by me or in the event that I did not comply with or shall violate any of the provisions of the Certificate of Incorporation or Constitution and By-Laws[4] of The American Board of Anesthesiology, Inc., or both, as then constituted. I agree to hold the American Board of Anesthesiology, Inc., its members, examiners, officers and agents free from any damage or complaint by reason of any action they or any of them, may take in connection with this application, such examinations, the grade or grades given with respect to any examination, or the failure of said board or corporation to issue to me such Certificate of Qualification."

Proper forms for making application and other information may be obtained by writing to the Secretary.

1. Written examinations are held on the third Friday of January annually.

2. Oral examinations are held during the third week of October annually.

3. This may be paid as follows: $25 with application ($10 registration fee not returnable) and $50 before examination.

4. Ignorance of the provisions of the Certificate of Incorporation and of the Constitution and By-Laws is not considered by the board to be a valid excuse for violations, as failure to maintain 100 per cent limitation of practice to anesthesiology, fee-splitting, etc.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY

FRANCIS E. SENEAR, President, Chicago.
J. GARDNER HOPKINS, Vice President, New York.
GEORGE M. LEWIS, Secretary-Treasurer, 66 East 66th Street, New York.
FRANK E. CORMIA, Assistant Secretary, New York.
ANTHONY C. CIPOLLARO, New York.
HENRY E. MICHELSON, Minneapolis.
HIRAM E. MILLER, San Francisco.
PAUL A. O'LEARY, Rochester, Minn.
BEDFORD SHELMIRE, Dallas, Texas.
FRED D. WEIDMAN, Philadelphia.

ORGANIZATION

At the 1931 meeting of the American Dermatological Association, a committee was appointed to determine the advisability of forming an American board for the certification of competent practitioners in this specialty. . . . A similar committee was appointed by the Section on Dermatology and Syphilology of the American Medical Association at its meeting in the same year. A favorable report was rendered by each committee at the 1932 meetings of these organizations.

The American Dermatological Association voted to accept the report of this committee, and the president appointed the following four members to represent the Association on the newly formed American Board of Dermatology and Syphilology:

JAY F. SCHAMBERG, Philadelphia.
HOWARD FOX, New York.
HAROLD N. COLE, Cleveland.
ARTHUR W. STILLIANS, Chicago.

The Section on Dermatology and Syphilology of the American Medical Association also accepted the report of its committee and the chairman appointed the following members to serve as its representatives:

HOWARD MORROW, San Francisco.
WILLIAM H. MOOK, St. Louis.
GEORGE M. MACKEE, New York.
C. GUY LANE, Boston.

The first meeting of the board was held in New Orleans on May 11, 1932, at which time officers were elected. At another meeting held on November 11, 1932, in Philadelphia, the organization was completed and resolutions were adopted concerning the proper procedure to be followed by the board. On November 29, 1932, the board was incorporated under the laws of the State of Delaware.

In 1937 the American Academy of Dermatology and Syphilology was formed, and in November, 1939, a plan was finally approved whereby the board would be composed of three representatives from each national dermatological society, viz., the American Dermatological Association, the Section on Dermatology and Syphilology of the American Medical Association, and the American Academy of Dermatology and Syphilology.

These representatives are the *members* of the board. A physician who fulfills the requirements of the board and is awarded a certificate is known as a *diplomate*.

PURPOSES

The board has been established primarily to determine the competence of physicians who specialize in dermatology and syphilology. It will therefore establish minimum standards of education and training, examine applicants and certify properly qualified specialists in this field, prepare lists of those qualified and arrange for the publication of such lists. Because of its interest also in the fulfillment of these standards, it will attempt to stimulate the development of adequate training facilities, investigate institutions and individuals planning to train specialists, and lend its aid to the approval of those institutions and individuals offering adequate training in the specialty. The board, in addition, will always be glad to advise physicians desiring to enter this special field of medicine.

REQUIREMENTS FOR ELIGIBILITY FOR EXAMINATION

I. General Requirements

1. High ethical and professional standing.
2. Graduation from a medical school recognized by the Council on Medical Education and Hospitals of the American Medical Association.
3. Satisfactory completion of an internship of not less than one year in a hospital approved by the same Council, or its equivalent in the opinion of the board.
4. A license to practice medicine.
5. Membership in the American Medical Association or membership in a similar society recognized as having the same purpose as the American Medical Association.
6. Citizenship in the United States or citizenship—meaning native citizens—in Canada or Cuba.

II. Special Requirements

Applicants for certification of the board are classed in two groups as follows:

Group A consists of physicians who have limited their practice mainly to dermatology and syphilology for ten or more years, including a period of training satisfactory to the board.

Group B consists of physicians who have completed an approved three-year period of training.

In accordance with the program recommended to the various specialty boards by the Advisory Board for Medical Specialties the following minimum requirements of special training for admission to examination have been established:

A period of study, after the internship, of not less than three years. This training may be obtained as resident, fellow or graduate student in clinics, dispensaries, hospitals or laboratories recognized by the Council on Medical Education and Hospitals of the American Medical Association and approved by the American Board of Dermatology and Syphilology as competent to provide a satisfactory training in dermatology and syphilology. This period of specialized training shall include:

(*a*) Graduate training in the basic medical sciences which are necessary for the proper understanding and treatment of the diseases involved in this specialty.

Instruction in the following fundamental subjects as related to the skin is deemed advisable by the board: embryology, histology, chemistry, physiology, bacteriology, mycology, parasitology, pathology, immunology, serology, pharmacology and materia medica and physics of physical therapy.

(*b*) Carefully supervised clinical and laboratory experience in the specialty.

(*c*) Annual examinations in the clinical, laboratory and public health aspects of dermatology and syphilology.

PRECEPTORSHIP TRAINING

Candidates may spend one year of their training in the office of a diplomate of the board, who has also been approved as a preceptor by the board. The office training may be divided over two years, in which case one-half day is spent in the office of the preceptor and the other half day in an approved institution. If no approved institution is available, only one year of training may be satisfied by working under the preceptor and two years of work in an approved institution will be necessary to fulfill the requirements. Preceptorship training may be taken during any of the years of training. Time spent with an instructor who has not been approved by the board may count only as experience and not as training.

The board assumes the responsibility of determining the standards of knowledge to be acquired, but on the candidate rests the responsibility of acquiring the knowledge to fulfill these standards.

APPLICATION AND FEE

In order that the Committee on Requirements may appraise carefully the qualifications of candidates, application must be made on a special blank, which may be obtained from the secretary. No application will be considered unless made on the regular application blank. Applications should be filed early in order to obtain full advantage of the sets of histopathological slides which are available through the Army Medical Museum in Washington. The completed application blank should be sent, at least two months before the date of examination, to the secretary of the board together with the required reprints, photographs, and a *registration* fee of $25 which will not be refunded under any circumstances. No application will be considered until this fee is received. An *examination* fee of $50 is payable when the candidate is notified that his application is acceptable to the board. The fee of $75 has been carefully computed and is used entirely for administrative purposes. Examiners for the board do not receive any compensation except for actual expenses connected with holding the examinations.

Make checks payable to American Board of Dermatology and Syphilology, Inc.

EXAMINATIONS

Applicants classified in Group B will be required to pass a written examination. This written examination on clinical, basic science and laboratory subjects will be held simultaneously at stated intervals in different parts of the country, approximately two months before the oral examination.

Applicants classified in either Group A or in Group B will be required to pass an oral, clinical and laboratory examination. This examination will be conducted in a clinic or hospital ward

where individual cases will be discussed with each candidate, as well as various subjects related to the skin such as histopathology, mycology, allergy, and physics or physical therapy. The board reserves the right to add to this list other subjects within the field of dermatology and syphilology.

A candidate for a certificate may take both the *written* and *oral* examinations at the next regular examination of the board after he has completed three full years of training in the specialty; this provision does not affect the regulations about the issuance of the certificate.

Examinations are designed to test the candidate's fitness to practice dermatology and syphilology as a specialty. The board will try especially to ascertain the breadth of his clinical experience, his knowledge of recent literature of dermatology and syphilology, and his general qualifications as a specialist in this branch of medicine.

Whenever an applicant fails to pass the examination, the board, if requested, will make suggestions as to suitable courses of instruction for the purpose of overcoming deficiencies in the applicant's knowledge of this specialty.

Except in special circumstances, applicants shall take the examination within the year following the filing of application and the deposit of the fee.

The oral examination may be held near the time and place of the annual meeting of the American Academy of Dermatology and Syphilology. This examination will be held only at the time of regular meetings of the board.

REEXAMINATIONS

If the candidate fails or is conditioned in an examination he will be admitted to a second examination after one year, and must give sixty days' notice of his intention to appear for reexamination. If a candidate who has failed or has been conditioned does not appear for reexamination before the expiration of three years, he will be required to make a new application and pay an additional fee of $50 before reexamination.

A candidate who has failed twice must file a new application and pay an additional fee of $50.

CERTIFICATES

A certificate will not be issued until the candidate has completed at least five years of dermatologic training and experience. The granting of this certificate by the board indicates that the holder of the certificate has had adequate training in dermatology and syphilology and has successfully fulfilled the requirements of the board.

Medical schools, hospitals, physicians, the Army, the Navy, the Public Health Service, and various governmental and philanthropic agencies, as well as the lay public, all utilize the certificate from this board as a proof of adequate preparation in the field of dermatology and syphilology and of fitness of candidates for positions under their control. For this purpose, lists of those holding certificates from the board are available for inspection and are published from time to time in the Directory of Medical Specialists. Diplomates are identified in the Directory of the American Medical Association.

A certificate granted by this board does not of itself confer or purport to confer any degree or legal qualifications, privileges, or license to practice dermatology or syphilology. The board does not intend to limit or interfere with the professional activity of any duly licensed physician. Its aim is to improve the standards of practice of dermatology and syphilology by encouraging improvement in the opportunities for and quality of training for specialists in this field of medicine, and to certify, as specialists, those who voluntarily comply with the requirements of the board.

Certificates will be issued only to physicians in the United States and its possessions, in Canada, and in Cuba.

REVOCATION OF CERTIFICATES

The certificates issued by the board are issued subject to the provisions of the certificate of incorporation and of the by-laws, and each certificate is subject to revocation in the event that: (a) the issuance of such certificate or its receipt by the physician so certified shall have been contrary to any of the provisions of the certificate of incorporation or by-laws; or (b) the physician so certified shall not have been eligible to receive such certificate, irrespective of whether or not the facts constituting him so ineligible were known to or could have been ascertained by the directors of the board at the time of the issuance of such certificate; or (c) the physician so certified shall have made any misstatement of fact in his application for such certificate or in any other statement or representation to the board or its representatives; or (d) the physician so certified shall have been convicted by a court of competent jurisdiction of a felony or of any misdemeanor involving, in the opinion of the Board of Directors, moral turpitude in connection with his practice of medicine; or (e) the physician so certified shall have had his license to practice medicine revoked or shall have been disciplined or censured as a physician by any court or other body having proper jurisdiction and authority.

CREDIT FOR MILITARY SERVICE

In view of the variability of dermatologic work and the differing conditions under which it was carried on by commissioned medical officers of the Army, Navy and Public Health Service, the board is unable to issue specifications for eligibility for examination to cover every situation that has arisen in the experience of every candidate, but the following general statements can be made.

1. Full credit will be given for dermatologic training in approved institutions, which preceded the military service.

2. Full time dermatologic military service may be credited, at the discretion of the board, for part or in some cases all of two years of the three required years of *training*. At least one year of the three years' required training including instruction in the fundamental subjects deemed essential for an adequate dermatologic education must be spent in one of the institutions approved for a three year training program by the board and by the Council on Medical Education and Hospitals of the American Medical Association.

3. In any event, the board strongly urges that the candidate supplement his military experiences by a further period of systematic and supervised dermatologic training before the examination.

4. A credit of one year as *experience* has already been voted by the board for one year of any military service. Thus a medical officer who passes the examination at the end of three years of training will receive his certificate one year later instead of at the completion of a total of five years' training and experience. Dermatologic work while in the armed forces not credited as training, may satisfy part or all of the remaining year of required dermatologic experience.

5. For commissioned officers the total fee will be $50 instead of $75. Of this, $25 must accompany the application. The examination fee of $25 is payable when the candidate is notified that his application has been approved by the board. These fees are not returnable.

PUBLICATIONS OF THE BOARD

1. Booklet of Information.

2. Opportunities for Graduate and Postgraduate Students in Dermatology and Syphilology, containing a list of loci where instruction may be obtained, and details about these places.

3. The names of all the diplomates are included in the third edition of the Directory of Medical Specialists published in 1946, by the A. N. Marquis Company, 210 East Ohio Street, Chicago 11, Illinois.

4. Syllabus of Graduate Training:

(*a*) To inform the student physician, intending to specialize, of the field to be covered in his preparation and the methods by which his preparation can be accomplished.

(*b*) To aid the medical schools and the dermatologic departments of medical schools and hospitals by outlining the scope of teaching deemed advisable for specialization in dermatology and syphilology.

INSTRUCTIONS TO APPLICANTS

Fill out application blank in detail.

Enclose fee of $25. (Make check payable to the American Board of Dermatology and Syphilology, Inc.)

Include *autographed* photographs as directed on application blank.

Enclose reprint of each published paper, if possible.

Send completed applications and above items to the secretary.

Please indicate under No. 13 on the application blank as complete data as possible about your training in dermatology and syphilis. Indicate the month and year, if possible, or at least the number of months of the various parts of your training and also whether full time or part time. If part time, indicate whether one-half day, six days a week, or three days a week, etc. If dispensary service is considered as part of your training, please indicate details here as well as under No. 14.

In No. 16 indicate clearly when you began to limit your practice to dermatology and syphilis.

If your training and your practice overlap, please explain under No. 19.

Further information may be obtained from the secretary.

AMERICAN BOARD OF INTERNAL MEDICINE

JAMES J. WARING, Chairman, Denver.
HUGH J. MORGAN, Secretary-Treasurer, Vanderbilt University Hospital, Nashville, Tenn.
WILLIAM A. WERRELL, Assistant Secretary-Treasurer, 1 West Main Street, Madison 3, Wis.
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VIRGIL P. W. SYDENSTRICKER, Augusta, Ga.
CECIL J. WATSON, Minneapolis.

ORGANIZATION

The American Board of Internal Medicine was established in 1936 by joint action of the Section on the Practice of Medicine of the Americal Medical Association and the Board of Regents of the American College of Physicians. It is a nonprofit organization incorporated for the benefit of physicians who because of their training and experience desire to be certified formally as specialists in internal medicine by a representative group of their colleagues.

The board consists of twelve members; seven are nominated by the American College of Physicians and five by the Section on Internal Medicine (formerly the Practice of Medicine) of the American Medical Association. Each member of the board serves for a term of three years but may be nominated and elected for a second term of three years. However, no member may serve for longer than two successive terms. The service is voluntary and members of the board do not receive compensation beyond the actual expenses incurred at the oral examinations or at special meetings.

RESPONSIBILITIES

The major object of the board is to pass judgment on the competence of internists who desire certification—not to determine who shall or shall not practice internal medicine as a specialty.

The American Board of Internal Medicine is not concerned with any mechanism which gains special privileges or specific recognition for those physicians who have been certified in internal medicine. It has never been the intent of the board to define requirements for membership on the staff of hospitals.

This board endorses completely the stand of the American Board of Surgery which "specifically disclaims interest in or recognition of differential emoluments that may be based on certification."

REQUIREMENTS FOR ADMISSION TO EXAMINATION AND CERTIFICATION

Each applicant for certification by this board must satisfy the qualifications listed below under, I General Qualifications A, B, C, D and II Professional Qualifications A, B, C, D. For exceptions to the requirements see C and D under Professional Qualifications.

I. General Qualifications.

A. All candidates must be citizens of the United States or Canada.

B. All candidates must present evidence of satisfactory moral and ethical standing in the medical profession.

C. All candidates must be active members in good standing in their county and state medical societies in their state of legal residence. (This ruling shall not apply to commissioned officers of the United States regular Army or Navy while serving outside the territorial limits of the United States.)

D. Canadian citizens applying for admission to examination must be active members of the Canadian Medical Association.

II. Professional Qualifications

A. Graduation from a medical school approved by the Council on Medical Education and Hospitals of the American Medical Association at the date of graduation.

B. Satisfactory completion of an approved internship of not less than twelve months.[1]

C. Approved residency or fellowship training in internal medicine according to the following plan (Plan A) or one of the alternate plans described under paragraph D below.

Plan A: A residency or fellowship in internal medicine for a period of not less than three years in a hospital or other institution approved by the Council on Medical Education and Hospitals of the American Medical Association for residency or fellowship in internal medicine. In addition, two years of practice of clinical internal medicine will be required. The board will accept the following equivalents as satisfying one year only of the three years of residency or fellowship to which this paragraph refers.

1. A second year (or a part thereof) of approved internship in a hospital approved for resident training in internal medicine if limited to the medical service (or medical specialties noted under 2) for one year and if recognized as being the equivalent of an assistant residency by the medical director of the hospital and the chief of the medical service.

2. One year of approved residency in one of the medical specialties: allergy, cardiovascular disease, gastroenterology, hematology, pulmonary diseases, neurology, pediatrics and psychiatry.

3. One year of approved residency in pathology.

4. One year as a graduate student or as an instructor in an approved medical school on a full time basis in bacteriology, biochemistry, pathology, pharmacology, physiology or internal medicine.

5. An advanced degree in the fundamental sciences.

Note: Graduate training credit for the time involved will be allowed veterans and other candidates who take and satisfactorily complete postgraduate courses in internal medicine or the basic medical sciences provided by accredited medical schools. This ruling shall not apply to courses of less than three months' or more than twelve months' duration. A certificate of creditable performance, based in part at least, on a formal examination on completion of the course, will be required.

D. *Alternate Training Plans:* The board firmly believes that the plan of intensive training prescribed above offers the best opportunity for a young physician to prepare himself to meet his responsibilities as a specialist in internal medicine. It is recognized, however, that capable individuals may accomplish the same result in a longer period of time during which the training is less intensive. The board realizes that a number of medical graduates cannot follow the shorter and more desirable plan either because suitable residencies are not available, or in some instances because of personal and economic reasons. Accordingly the board has modified its previous regulations governing eligibility for admission to examination. In doing so the board has not modified its standards of examination. It has liberalized its eligibility requirements for admission to examination by accepting half time formal training, and the practice of internal medicine under favorable circumstances as to professional and hospital contacts, in lieu of part of the full-time requirements. It is hoped that by this means exceptional individuals may acquire a knowledge of medicine and experience in its application sufficient to qualify for certification.

The program already described (Plan A), which consists of three years of formal training in an approved residency or its equivalent, following internship, and two additional years in the practice of internal medicine, is recommended by the board. Variations in this program are now made subject to the following regulations.

1. In all instances, one year of approved internship and one year of approved residency will be required, except as indicated under Plan "G." The graduate training credit of one year heretofore granted as a result of active duty as a commissioned officer in the Armed Forces during the period beginning Dec. 7, 1941, and ending Jan. 1, 1947 may not be applied in satisfaction of the one year of approved residency referred to in Plans D, E, F, unless the candidate's assignment is considered by the board to have been equivalent to an approved residency.

2. Following one year of internship and *two years* of approved residency,[2] the remaining requirements may be satisfied by:

Plan B that is, by two years of half time formal training followed by two years of practice limited to internal medicine, or by

Plan C that is, by five years of practice limited to internal medicine.

3. Following one year of internship and *one* year of approved residency, the remaining requirements may be satisfied by:

The data pertaining to the American Board of Internal Medicine represents an advance copy of the revision of the regulations of the board which was sent for publication in this issue prior to its final approval by the board. Any changes in the regulations as finally adopted will be of a minor nature.

1. During the period in which the 9-9-9 program was in effect an approved internship of nine months will satisfy the requirements of twelve months. A residency of nine months is considered as nine months only.

2. For the second year of approved residency one of the equivalents described under C may be substituted.

Plan D that is, by four years of half time formal training followed by two years of practice limited to internal medicine, or by

Plan E [3] that is, by two years of half time formal training followed by five years of practice limited to internal medicine, or by,

Plan F that is, by eight years of practice limited to internal medicine.

4. In every instance at least two years of practice in internal medicine must be included, but in instances in which four years of practice are substituted for one year of residency, only one additional year of practice will be required. When more than eight years of practice are substituted for two years of residency an additional year of practice will not be required.

5. Physicians who have practiced internal medicine for twelve years following an approved internship may qualify for the examinations without further training. (Plan G.)

Half time formal training under expanded plans B, D and E is defined as follows:

1. Half time as an instructor in clinical medicine in a recognized medical school in the United States or Canada.

2. Half time in a research fellowship sponsored by a recognized medical school in the United States or Canada.

3. Half time as a graduate student in an approved graduate medical school in the United States or Canada.

E. *Practice Requirements:* A period of not less than two years of practice in the general field of clinical internal medicine or in the more specialized branches of medicine. (See exceptions—paragraph 4.) This requirement may be satisfied by independent practice or in association with a recognized internist.

Note: Although in general the board believes it desirable to complete the three years of formal training before satisfying the requirements of practice a reversal of this order is acceptable.

F. *Graduates of Foreign Schools:* At the present time neither the Council on Medical Education and Hospitals of the American Medical Association nor any other educational agency in the United States has the machinery to evaluate adequately the quality of foreign medical education. This board must, therefore, evaluate the fundamental educational credentials and other qualifications of each individual candidate educated abroad who applies for admission to examination. (See requirements for graduates of foreign schools.)

G. *Candidates Graduating Prior to 1937:* The requirement of three years of graduate training will not apply to candidates graduating from approved medical schools in the United States and Canada in 1936 or previous thereto, provided such candidates have limited their work to the field of internal medicine for at least two years, and provided each candidate is recognized as an internist by his colleagues in his community.

H. *"Preceptor Training":* Preceptor type training is not recognized in satisfaction of any part of the three year requirement of formal graduate training.

I. The board will grant one year of graduate training credit, or one year in satisfaction of the requirements of practice, regardless of assignment, for active duty as a commissioned officer in the United States Army, Navy, or United States Public Health Service for one year or more, beginning on or subsequent to Dec. 7, 1941 and terminating on or before Jan. 1, 1947.

Depending upon the nature of the duty assignments, after Jan. 1, 1947 active duty as commissioned officer in the United States Army Reserve Corps, United States Naval Reserve Corps, or United States Public Health Service may be applied in satisfaction of one year of the requirements of practice but will not be regarded as satisfying any part of the graduate training requirements, unless the officer is assigned as a resident in internal medicine, neurology, psychiatry, or pathology in an Army, Navy or United States Marine Hospital which is approved by the Council on Medical Education and Hospitals of the American Medical Association for resident training in the divisions of medicine referred to.

PRINCIPLES OF TRAINING

The American Board of Internal Medicine is interested in the fact that the candidate has embarked on a career of study voluntarily and has thereby expressed the desire to excel and to participate personally in the world's progress in medicine.

Preparation must be based on years of continuous thoughtful study. Therefore, in suggesting a program for those who wish advice, the board hopes to assist the candidates to avoid inferior and superficial programs which may lead to failure and disappointment in later years.

The board believes that all internists should have a sound fundamental knowledge of anatomy, bacteriology, biochemistry, pathology, pharmacology, and physiology. Such knowledge is essential to the continued progress of any internist. The board anticipates that adequate training will be obtained in the basic sciences as applied to internal medicine during a formal three year residency program.

The board wishes to emphasize that time and training are but a means to the end of acquiring a broad knowledge of internal medicine which the candidate must demonstrate to the board in order to justify it in certifying that he is competent to practice internal medicine as a specialty. The responsibility of acquiring the knowledge rests with the candidate. The responsibility of maintaining the standards of knowledge required for certification devolves on the board.

APPLICATION

Candidates for examination must make their application on a prescribed form which may be obtained from the office of the assistant secretary-treasurer.

The application must contain a record of the candidate's premedical and medical training as well as of internships, residencies, graduate study, hospital or dispensary staff appointments, teaching positions, service in the armed forces, membership in medical societies, medical papers published, and the names of three or more well known internists to whom the board may write for professional and character reference.

The application must be accompanied by one recent, signed photograph of the candidate *mounted* on the application, and the registration and examination fee of $30, which fee will cover both the written and oral examinations. An additional fee of $10 will be required when the certificate is issued.

METHOD OF EXAMINATION

The examinations for certification by the board comprise two parts: Part I is written; Part II is clinical and is an oral examination. The written examination is held simultaneously in different sections of the United States and Canada on the third Monday of February and October of each year. This examination is divided into a morning and afternoon period for each of which three hours are allowed. The questions asked are framed in such manner as the board elects; in general, there will be questions designed to test the applicant's knowledge of applied physiology, anatomy, physiological chemistry, pathology, bacteriology and pharmacology as related to internal medicine, and his basic clinical acumen.

Candidates must pass the written examination before admission to the oral examination will be authorized. The oral examination is conducted under the direct supervision of the board. It is held near the time and place of the annual meetings of the American Medical Association and of the American College of Physicians, or at such other times and places as the board may designate. The examination is conducted at the bedside of the patient. Each candidate is assigned two or more patients and is expected to be sufficiently familiar with whatever problems present themselves as to satisfy the board of his clinical expertness.

REEXAMINATION

Effective Jan. 1, 1946, not more than three written examinations will be authorized. The interval between the first and the second written examinations will be one year. The interval between the second and third written examinations will be not less than two years. A longer period may be required by the board. A fee of $10 is required for each additional written examination.

This ruling does not make it mandatory for a candidate to repeat the examination within one or two years, since each candidate may elect a longer interval.

Not more than three oral examinations are authorized. The interval between the first and second oral examinations will be one year. The interval between the second and third oral examinations will be not less than two years. A longer period may be required by the board. Candidates may elect a longer period if desired. A fee of $10 dollars is required for each additional oral examination.

CERTIFICATES

The certificate issued by the American Board of Internal Medicine shall be in such form as to comply with the articles of incorporation and the by-laws and shall be signed by the officers and members of the board, and shall bear the official seal of the board.

3. Certification by the head of the department in which the work was done is required.

Certificates of the board will be issued to candidates who have satisfactorily completed the written and oral examinations, and have been found qualified by the board to practice the specialty of internal medicine. Specialty certification will be designated on the certificate, for those so certified.

ADVISORY BOARDS

Allergy, cardiovascular disease, gastroenterology and pulmonary diseases are recognized specialties.

All candidates must pass the written and oral examinations in internal medicine before admission to examination in a special of medicine. The specialty examinations are oral only and may be taken the day following the examination in general medicine, or at any other regularly scheduled oral examination.

Applications for consideration in the specialties referred to must be approved by the Advisory Board concerned and confirmed by this board.

Application forms will be forwarded on request to the office of the assistant secretary-treasurer.

Please address all official correspondence to the assistant secretary-treasurer.

AMERICAN BOARD OF NEUROLOGICAL SURGERY

HOWARD C. NAFFZIGER, Chairman, San Francisco.
MAX M. PEET, Vice-Chairman, Ann Arbor, Mich.
WILLIAM J. GERMAN, Secretary-Treasurer, 310 Cedar Street, New Haven, Conn.
A. W. ADSON, Rochester, Minn.
C. C. COLEMAN, Richmond, Va.
W. McK. CRAIG, Rochester, Minn.
LEO M. DAVIDOFF, New York.
JOSEPH P. EVANS, Cincinnati.
GILBERT HORRAX, Boston.
R. EUSTACE SEMMES, Memphis.
W. P. VAN WAGENEN, Rochester, N. Y.

ORGANIZATION

The principle of certification in medical specialties is now well established. Recognizing the need for detailed training and special qualifications for the practice of neurological surgery, representatives of both the Society of Neurological Surgeons and the Harvey Cushing Society held an informal meeting on March 27, 1939, to consider this matter. Later, the group was enlarged by representatives from the Section on Nervous and Mental Diseases of the American Medical Association, the Section on Surgery of the American Medical Association, the American Neurological Association and the American College of Surgeons.

It was unanimously resolved by the enlarged group that a separate board be formed for certification in neurological surgery. Approval of the board by the Advisory Board for Medical Specialties and the Council on Medical Education and Hospitals of the American Medical Association was given. The American Board of Neurological Surgery was incorporated in the State of Delaware on Aug. 1, 1940.

PURPOSES

1. To encourage the study, improve the practice, elevate the standards and advance the science of neurological surgery and thereby to serve the cause of public health.

2. To grant and issue to physicians duly licensed by law, certificates or other recognition of special knowledge in neurological surgery and to suspend and revoke the same.

3. Certificates granted or issued by the corporation shall not confer or purport to confer upon any person any legal qualification, privilege or license to practice neurological surgery, nor purport to be issued under or in pursuance to or by virtue of any statutory or governmental sanction or authority. Recipients of certificates shall not by virtue thereof become members of the corporation nor shall they be entitled by virtue thereof to vote on any matter whatsoever.

4. To receive and act upon applications, from physicians duly licensed by law, for certificates and to require the payment of and to receive from each applicant therefor application, examination and other fees in such amounts as from time to time may be fixed by the Board of Directors.

5. To establish, maintain, alter and amend rules and regulations, standards and qualifications for the granting and issuing and for the suspension, surrender and revocation of certificates.

6. To determine by examination, investigation and otherwise the fitness and competence of specialists in neurological surgery who shall apply for certificates and to prepare, provide, control and conduct examinations, written, oral and otherwise, for such purpose and to determine the results of such examinations.

7. To furnish to the public, hospitals, medical schools, medical societies and practitioners of medicine and surgery lists of neurological surgeons who from time to time have been granted certificates by this corporation.

MEMBERSHIP

The membership of the corporation shall be twelve in number and shall be nominated as follows:

Four members by the Society of Neurological Surgeons
Three members by the Harvey Cushing Society
One member by the Section on Nervous and Mental Diseases of the American Medical Association
One member by the Section on Surgery of the American Medical Association
One member by the American Neurological Association
One member by the American College of Surgeons
One member by the American Academy of Neurological Surgery

All nominees shall be subject to the approval of the Board of Directors. Any vacancies shall be filled in the same manner as the selection of the original members. The board shall be empowered to fill unexpired terms of members to serve until the society which elected them can act in filling the vacancies.

The number of members and directors may be reduced to not less than five members and thereafter increased to not more than twelve members, and the allocation from the societies may be changed, on the affirmative vote of not less than two-thirds in number of the members or directors.

All future members of the board shall be diplomates of the American Board of Neurological Surgery.

The term of membership of four of the original members shall be for six years, the term of four for four years, and the term of the remaining four for two years, to be determined by lot at the first meeting of the Board of Directors. All members subsequently elected shall continue for a term of six years.

The members shall meet at least once yearly at a time and place to be fixed by the chairman on at least twenty days' written notice. Other meetings may be called by the chairman as often as may be necessary, each call to state the date and place of the meeting, and notice thereof shall be given to all of the members at least twenty days in advance.

The presence in person of a majority in number of the members of the corporation shall be necessary and sufficient to constitute a quorum for the transaction of any business at any meeting of the members, annual or special.

REQUIREMENTS FOR CERTIFICATION

Group A. *Those certified without examination.* On invitation by the board and written application made within two years from January 1, 1940, the following may be accepted as eligible for certification upon the approval of the Board of Directors and on the production of evidence of satisfactory moral and ethical standing in the profession.

1. Individuals of professorial rank in approved medical schools of the United States or Canada whose surgical practice is limited to neurological surgery.

2. Those who have specialized in neurological surgery for ten years prior to January 1, 1940.

Group B. *Those certified by examination. Eligibility for examination:* To be eligible for examination and certification by the board, all candidates must possess the preliminary and basic medical qualifications required by the Advisory Board for Medical Specialties as applied to all specialties as follows:

1. General Qualifications:

(*a*) Moral and ethical standing in the profession satisfactory to the Board of Directors.

(*b*) Membership in the American Medical Association or, by courtesy, membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association.

(*c*) Those who limit their surgical activities to the practice of neurological surgery.

(*d*) It shall be discretionary with the board to accept for examination candidates who have been in practice more than six years but whose formal training fails to meet the full requirements.

(*e*) Properly qualified candidates who are permanent residents in and citizens of other countries and are legally qualified to practice medicine there, and who have received their training in neurological surgery in the United States of America or Canada

may apply for certification by the American Board of Neurological Surgery.

2. Professional Standing:

(*a*) Graduation from a medical school of the United States or Canada recognized by the Council on Medical Education and Hospitals of the American Medical Association, or graduation from a foreign school which is acceptable to the American Board of Neurological Surgery, Inc.

(*b*) Completion of a surgical internship of not less than one year in a hospital approved by the same Council, or its equivalent in the opinion of the board.

3. Special Training:

A period of graduate study in a recognized graduate school of medicine of not less than three years beyond the intern year, or in an approved hospital or under a sponsorship acceptable to the American Board of Neurological Surgery, Inc., for the training of neurological surgeons.

This period of special training shall be of such a character that the relation of the basic sciences of anatomy, physiology, pathology, bacteriology, and biochemistry is emphasized. Knowledge of these sciences as applied to practice of neurological surgery will be required in the examination.

An additional period of not less than two years in the practice of neurological surgery.

APPLICATIONS

An application on the official application blank in such form as may be adopted from time to time by the Board of Directors in order to be considered at any meeting, must be in the hands of the secretary-treasurer of the board not less than six days before the date of such meeting.

The secretary-treasurer of the board on receipt of an application shall forthwith make inquiries from those to whom the candidate refers and from such other persons as the secretary-treasurer may deem desirable, after which he shall forward the application to the Committee on Credentials. This committee shall consider the application and other information available and notify the secretary-treasurer its recommendation whether or not the applicant is acceptable. The certification of a candidate shall be approved by a majority of the members of the entire board at any meeting held for such certification.

PLEDGE

Each candidate is required to sign the following pledge:

"I hereby make application to the American Board of Neurological Surgery, Inc., for the issuance to me of a Certificate of Qualification as a specialist in neurological surgery and for examination relative thereto, all in accordance with and subject to its rules and regulations. Upon the issuance of the certificate I agree to and do become bound by the By-Laws of the American Board of Neurological Surgery, Inc., insofar as applicable.

"I agree to disqualification from examination or from the issuance of a Certificate of Qualification or to forfeiture and redelivery of such Certificate of Qualification in the event that any of the rules governing such examination are violated by me or for any one of the reasons set forth in the By-Laws. I agree to hold said American Board of Neurological Surgery, Inc., its members, examiners, officers and agents free from any damage or claim for damage or complaint by reason of any action they, or any of them, may take in connection with this application, such examination, the grade or grades given with respect to any examination and/or the failure of said Corporation to issue to me such Certificate of Qualification."

PAYMENT OF FEES

The fee for certification, with or without examination, shall be seventy-five dollars ($75).

The candidate for examination on filing his application shall accompany it with an application fee of twenty-five dollars ($25). When notified by the secretary-treasurer that he is eligible for examination he shall send the examination fee of fifty dollars ($50) to the secretary-treasurer at least two weeks before the date of the examination. The application fee will be returned if the candidate is not accepted for examination.

REEXAMINATION

A candidate who has failed in one examination is eligible to reexamination in the subject, or subjects, in which he failed, within three years, on payment of a reexamination fee of ten dollars ($10). A candidate who has failed in one examination and who does not apply for reexamination within three years or a person who has applied within that time but has failed a second time will be considered a new applicant.

FORM AND EXECUTION

Certificates issued by the corporation shall be to the effect that the holder has been found qualified to practice neurological surgery. They shall be in such form, in compliance with the Certificate of Incorporation, as the Board of Directors shall approve and shall be signed by the Chairman or the Vice-Chairman and by the Secretary-Treasurer and shall have impressed thereon the official seal of the corporation.

REVOCATION OF CERTIFICATES

Any certificate issued by the board shall be subject to revocation at any time the board shall determine in its sole discretion that the candidate to whom the certificate was issued either was not properly qualified to receive it, or has since become disqualified.

Further information may be obtained from the secretary-treasurer.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

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ORGANIZATION

In 1930 the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, the American Gynecological Society, and the Section on Obstetrics and Gynecology of the American Medical Association, each elected three Fellows to constitute the American Board of Obstetrics and Gynecology.

Dr. Walter T. Dannreuther of New York, Dr. Paul Titus of Pittsburgh and Dr. Grandison D. Royston of St. Louis were appointed to represent the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons; Dr. Jennings C. Litzenberg of Minneapolis, Dr. Joseph L. Baer of Chicago, and Dr. E. A. Schumann of Philadelphia were appointed to represent the American Gynecological Society; Dr. Fred L. Adair of Chicago, Dr. R. D. Mussey of Rochester, Minn., and Dr. E. D. Plass of Iowa City were appointed to represent the Section on Obstetrics and Gynecology, and Abdominal Surgery of the American Medical Association. Since formation of the board several of the original members have resigned and others have been duly appointed to fill their places.

The board was incorporated and organized and held its first meeting in September 1930. At that time the By-Laws were adopted and provision was made by resolutions for its proper functioning.

This board had been in the process of organization since 1927 and put into action a determined effort on the part of these three national organizations to improve the standards of practice of obstetrics and gynecology.

PURPOSES

First. To elevate the standards and advance the cause of obstetrics and gynecology.

Second. To determine the competence of practitioners professing to be specialists in obstetrics and gynecology.

Third. To arrange, control and conduct examinations to test the qualifications of voluntary candidates appearing before the board for certification as specialists in obstetrics and gynecology.

Fourth. To grant and issue certificates of qualification as specialists in the field of obstetrics and gynecology to candidates successful in demonstrating their proficiency.

Fifth. To serve the public, hospitals and the medical schools by preparing lists of specialists certified by the board.

These activities proceed from the certificate of incorporation in which it is stated that "the nature of the business and the objects or purposes proposed to be transacted, promoted and carried on by it" are as follows:

"To encourage the study, improve the practice, and advance the cause of obstetrics and gynecology, subjects which should be inseparably interwoven; and to grant and to issue to physicians duly licensed by law, certificates or other equivalent recognition of special knowledge in obstetrics and gynecology."

VALUE OF CERTIFICATE

The national obstetrical and gynecological organizations, which have participated in the formation of the board and are

sponsoring its activities, as well as other societies, attach considerable importance to its certificate. Both the medical and the lay public, including hospital directors, have come to utilize the certificate from this board freely as a means of determining who are well grounded as specialists in obstetrics and gynecology.

Lists of those holding certificates from this board who are limiting their practice to obstetrics and gynecology are published in the Directory of Medical Specialists; similar lists are published by the *American Journal of Obstetrics and Gynecology*, and also appear in the *American Medical Directory*. This latter indicates diplomates of this and other boards by means of numerical symbols appearing in the biographic records but does not give such special recognition to diplomates who are not members of the American Medical Association.

Each certificate granted or issued does not of itself confer or purport to confer upon any person any degree or legal qualifications, privileges or license to practice obstetrics or gynecology, nor does the board intend in any way to interfere with or limit the professional activities of any duly licensed physician. Its chief aim is to standardize qualification for specialists in obstetrics and gynecology, and to certify as specialists those who voluntarily appear before the board for such recognition and certification, according to its regulations and requirements.

It was never intended by this board that certification should be required by any hospital as a prerequisite to appointment in various staff positions, even though certification or its full equivalent is considered a desirable requisite to appointment in key positions, as on the Senior or Chief Staff, especially of hospitals expecting to conduct approved services for training of residents.

This board does not subscribe to any hospital or medical school rule that certification is to be required for medical appointments in ranks lower than Chief or Senior Staff of hospitals, or Associate Professorship in schools of medicine, for the obvious reason that such appointments constitute desirable specialist training.

REVOCATION OF CERTIFICATES

Each Certificate of Qualification may be revoked by this board in the event that:

1. Any representation or statement made to the board or to any of its representatives by the physician so certified, including the statements contained in his application for certification, shall have been false or intentionally misleading.

2. The physician so certified shall not *in fact* have been eligible to receive certification, irrespective of whether or not the facts constituting such ineligibility were known to or could have been ascertained by this board, its members, directors, examiners, officers, or agents at or before the time of issuance of such Certificate of Qualification.

3. Any rule governing examination for certification shall have been violated by the physician so certified and the fact of such violation shall not have been ascertained until after the issuance of the Certificate of Qualification.

4. The physician so certified shall fail to abide by the regulations governing the limitation of his practice to the specialty of obstetrics and gynecology.

5. The physician so certified shall violate the standards of ethical practice of medicine then accepted by organized medicine in the locality in which he shall be practicing and, without limitation of the foregoing, the forfeiture, revocation or suspension of his license to practice medicine, or the expulsion from, or suspension from the rights and privileges of membership in, the American Medical Association or any state or county society affiliated therewith, any recognized Canadian medical society, the American Association of Obstetricians and Gynecologists and Abdominal Surgeons or the American Gynecological Society shall be conclusive evidence of a violation of such standards of ethical practice of medicine.

6. The physician so certified shall fail to comply with or violate, or the issuance or receipt by him of such Certificate of Qualification shall have been contrary to or in violation of, the Certificate of Incorporation, the By-Laws or the Rules and Regulations of this board.

Upon revocation of any Certificate of Qualification by this board as aforesaid, the holder thereof shall return his Certificate of Qualification and all other evidence of certification to the secretary of the board and his name shall be removed from the list of certificate holders of this board.

PREREQUISITES TO ELIGIBILITY

Each applicant before he shall become eligible to receive such certificate or other evidence of recognition:

1. Must have had conferred on him a degree in medicine by an institution of learning approved by the Advisory Board for Medical Specialties and the Council on Medical Education and Hospitals of the American Medical Association.

2. Must establish in a manner satisfactory to the board of directors that he is a physician duly licensed to practice medicine, and

a. That he is of high ethical and professional standing.

b. That he has received adequate training in both obstetrics and gynecology as a specialty. Training in one branch only is not acceptable.

3. Must make application for investigation of his credentials and a survey of his character.

4. Must assure the board that he is limiting his practice to obstetrics and/or gynecology and that he intends to continue to do so, except for military duties, having limited for at least six (6) months before making application (except for active military duty).

5. Must have membership in the American Medical Association, or membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association. (Membership in the American Medical Association or equivalent society membership is waived, temporarily, for men in the Army or Navy, especially for those who proceeded directly or almost so from hospital services into Army or Navy Services, on a statement of intention to join promptly upon return to civilian practice.)

6. This board will not accept applicants for examination who are not full citizens of the United States or of Canada, though they be residents of either country. Foreign born applicants must have been certified by either the National Board of Medical Examiners or licensed to practice medicine in the United States or Canada by a state or provincial board of licensure. Notarized statements, *not* original citizenship papers, must be furnished when the application is filed, attesting to the fact of full citizenship in the United States or Canada, if the applicant is foreign born. Further there will be required a probationary period of at least three (3) years from the date of licensure in the practice of medicine in these countries before such a candidate may be admitted to examination.

7. The board accepts the fifth or "intern" medical school year required at some schools in lieu of the usual fifth or intern "clinical training" year following graduation. As a substitute for special training, service with a qualified obstetrician-gynecologist preceptor, preferably one who has been certified by the board, may be acceptable. The exact time basis for this has not been specified, and each case must be reviewed and decided individually by the Credentials Committee after the application is submitted in the regular manner. The time allowance for this type of training will vary with the amount of work done with the preceptor. Opportunity for personal responsibility during this period of training is essential.

8. The board conformed with the general acceleration in programs in medical education in that it will accept a period of nine "accelerated" months as an academic year in satisfying the requirement for each of three years of residency training. Such allowances can be made only for services during the wartime period of the official "accelerated program" and are not made for services before 1944 or after the discontinuance of this acceleration in 1946.

9. The period of special training should emphasize the relation of the basic sciences, anatomy, pathology, physiology, biochemistry, and bacteriology, to the application of surgical principles which are fundamental in all branches of surgery. In addition, the candidate must understand and be trained in the following subjects, viz., the care of emergencies, shock, hemorrhage, blood replacement, electrolyte and fluid balance, protein and nitrogen balance, choice of anesthetics, chemotherapy, acidosis, and alkalosis, narcotics and hypnotics, wound healing, etc.

10. Credit for graduate courses in the basic sciences which involve laboratory and didactic teaching rather than clinical experience or opportunities will be given credit for the time spent up to a maximum period of not more than six months regardless of the duration of the course.

11. An acceptable residency is one which has been approved by the Council on Medical Education and Hospitals of the American Medical Association jointly with this board.

12. The board has ruled that physicians who accept male patients in their private or other practice, for operative or other care, cannot be regarded as specialists in obstetrics and gynecology, except by special ruling when this is related to active military duty.

13. This board deprecates engagement in fields of practice other than that in which candidates profess to be specialists. The board does not exclude from examination, however, obstetricians and/or gynecologists who practice abdominal

surgery and urology in the female, as well as breast surgery, because of the correlation of these activities.

Military service or any other similar patriotic service, such as work with Selective Service Boards, etc., have not been construed as nonlimitation of practice in violation of the board regulations.

REQUIREMENTS

The requirements for all candidates will be uniform, as follows:

1. Completion of at least one (1) year intern service in a hospital approved by the Council on Medical Education and Hospitals of the American Medical Association. (This need not be a general rotating internship, although this latter is preferred.)

(A second year general internship is to be considered as one of a candidate's years of practice. No credit will be given toward special training during a second year general internship.)

2. A minimum of seven (7) years of practice after the intern year, including at least three (3) years of residency training in approved institutions, or adequate preceptorship training as a formal assistant, preferably full time, in approved institutions or with recognized specialists in obstetrics and/or gynecology satisfactory to the Board of Directors.

This board, in cooperation with the Council on Medical Education and Hospitals of the American Medical Association, surveys institutions providing acceptable residencies in obstetrics and gynecology.

The American Board of Obstetrics and Gynecology establishes herewith requirements for its approval of a residency in a hospital department or service:

1. The chief of the Active Visiting Staff of the Department must be certified by this board with at least one other of his subordinates, the remaining members of the Staff must be otherwise acceptably qualified to teach and to practice obstetrics-gynecology.

2. In instances where the services of obstetrics-gynecology are not combined but are separate in any given hospital, the chief of each such service and at least one of his subordinates must be certified.

3. If obstetrics and gynecology are not combined in one department, approval can be granted only if arrangements are made for some degree of rotation of residents between both services.

4. If gynecology is classified in the given hospital as a subdivision or subservice of surgery, approval cannot be granted for residency training in gynecology.

5. Exceptions to the foregoing, in respect to the certified status of chiefs of service and others as outlined above, can be made only by unanimous assent of the Committee on Postgraduate Survey, for adequate and justifiable reasons. As examples of the latter, the degree of F.A.C.S. in obstetrics-gynecology might be accepted in lieu of one of the two required certifications if the general reputation of the person concerned is known to the committee as national or sectional in scope, or a professorial rank without certification might be acceptable.

6. It should be recalled by all concerned that credits for graduate training may be obtainable for residency or assistantship service in hospitals not officially approved for residency training. Each such case must be individually considered, and credits will be largely dependent on the teaching qualifications of those in charge of the service, and the clinical facilities of the hospital in question.

Lists of formally approved institutions for special residency training appear regularly in certain issues of the Journal of the American Medical Association. Detailed information about any of these can be obtained by applying to the American Medical Association.

It is possible for candidates trained in some unclassified or as yet unapproved hospitals to obtain credit for this training if properly supervised. Each such case must be considered on its own merits.

Candidates should offer as sponsors or references, two Diplomates of this board with whom they are presently in contact, rather than men under whom they served as residents only.

APPLICATION AND FEES

Application must be made on a special blank which will be furnished by the secretary's office, 1015 Highland Building, Pittsburgh 6, Pa., and must be forwarded with the other required credentials and the application fee to the secretary's office at least ninety (90) days prior to the scheduled date of the examinations.

Application fee.....$15.00

Make checks payable to American Board of Obstetrics and Gynecology. Not returnable.

(Applications will not be considered for classification and action by the Credentials Committee unless accompanied by the application fee.)

Examination fee.....$85.00

(Payable when the candidate is notified of acceptance for examination. Not returnable after the candidate has been officially accepted by the Credentials Committee and notified to report for examination.)

Total fee.....$100.00

The fees have been carefully computed on a basis of cost of examinations and are used entirely for administrative expenses. Examiners serve without compensation other than actual expenses.

Many prospective candidates write the secretary's office outlining in their letters their training qualifications and asking informally if they are eligible. Any candidate should be able to make a fair estimate of his eligibility after studying this bulletin.

The secretary cannot and will not make any eligibility rulings. These are made only by the Credentials Committee after reviewing those applications only, which are made on the special form provided for this purpose, and submitted to the secretary with the candidate's application fee.

All candidates must comply with board regulations in effect for the year in which the examination is taken, regardless of when the original application was filed.

Applicants declared ineligible for admission to examination may reopen their applications within two (2) years of the filing date without payment of an additional application fee.

Applicants declared eligible but who fail to exercise the examination privilege within three (3) years of the date of filing the application are required to file a new application and to pay a new application fee.

An applicant in military service during the wartime national emergency and assigned to work in general surgery under conditions acceptable to the Credentials Committee may receive credit up to a maximum of six (6) months applicable toward his three (3) required years of specialty training. The additional time may be applied toward the years of practice requirement.

An applicant serving under military orders in an Army or a Navy hospital in an obstetrical and/or gynecological service under supervision will be given the same credit as if he were working under a preceptor, since most of these departments are supervised by men who are Diplomates of this board or who are recognized obstetrician-gynecologists. He may obtain full residency credit if such hospital is officially approved and listed for residency training in this specialty.

Additional time in military service with any type of general medical assignment may be applied toward the board's year of practice requirement. The Credentials Committee of the board will review and give consideration to each individual case.

Upon notice of acceptance for admission to examination, examination fee is due and also case records which should be shipped by the candidate to the secretary's office as soon as possible and not later than the date of the Part I written examination.

The candidate should make immediate acknowledgment of his notice of acceptance at which time he will notify the secretary's office approximately when to expect his case reports.

EXAMINATIONS

Part I examinations are scheduled annually for the first Friday in February. Grades cannot usually be mailed from the secretary's office until after April first following the examination. Arrangements will be made for candidates to report in any convenient city where there may be a Diplomate of this board to conduct or to supervise the written examination which will be sent out from the board's office under sealed cover.

Special arrangement will be made through senior officers for conducting the written portion of the Part I examination for men in military service. Such candidates are requested to keep the secretary's office informed at all times of changes in their mailing addresses.

All applicants accepted for examination will be required to obtain a passing grade in both the written examination and a review of case reports (Part I), before becoming eligible for the oral-clinical and pathology examinations (Part II).

The passing grade for the written examination and case reports is 75 per cent. A candidate whose grade in either or both falls below 75 per cent is conditioned.

Reexamination for the removal of conditions in Part I may be taken after one year but within three years after the first failure, without payment of an additional fee.

Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year.

Candidates appearing for reexamination under a new application after two previous failures will not be required, if they have passed all or part of the Part I examinations on their first application, to repeat such examination items already successfully cleared.

After two ineligibility or postponement rulings on any candidate's application, an entirely new application form must be submitted (with or without fee, according to current requirements) in order to bring data down to date. The essential feature of this should be evidence of additional training and experience.

All original Group A candidates, who have allowed three years or more to elapse without taking examinations, and who care to apply again, must do so on the regular current basis. If accepted, they will now be subject to Part I and Part II examinations.

Former Group A candidates appearing for reexamination after first failure in Part II are not required to take the Part I examination.

PART I

Examination consists of:

1. A comprehensive written examination, conducted annually, including questions on both obstetrics and gynecology and related basic sciences.
2. The filing of twenty-five (25) obstetrical and gynecological case reports, in condensed form. Five (5) cases may concern major illnesses, not necessarily operative. These must be cases for which the candidate was personally responsible.
3. The written examination will be limited to a maximum period of three hours.

PART II

The oral-clinical and pathology examinations given all candidates are conducted by the entire board and the associate examiners usually near the time and place of the annual meeting of one or more of the national societies represented on this board, usually that of the American Medical Association. Advance announcements of examination dates and place will be made in medical journals throughout the country.

Examination consists of:

1. Oral examination before two to four examiners.

   An endeavor is made to adapt the details of the oral examination to each candidate's experience and practice. The examination is particularly directed to ascertain his familiarity with recent obstetrical and gynecological literature, the related basic sciences, the breadth of his clinical experience, and his general qualifications as a specialist in obstetrics and gynecology.

2. Pathology examination.

   The candidate is expected to identify and to discuss several obstetrical and gynecological pathologic specimens and sections.

Examiners report orally on each candidate to the assembled board, after which the results of their investigations are considered jointly by the entire board and associate examiners. After a general consideration of the details of the candidates oral and pathology examinations, including a review of his capability and general adaptability, the candidate is passed or failed by the entire board.

The final action of the board is based upon the candidate's ethical and professional record, training and attainments, as well as on the results of his formal examination.

No conditions are given in Part II of the examination. When a candidate fails in Part II of the examination, he is not required to repeat Part I, but to take a reexamination in the oral-clinical and pathology portions only. One reexamination may be taken within three (3) years of the original examination or first failure without reapplication or payment of an additional fee.

The candidate may reappear at the examination following the one failed by him. In applying for reappearance he should outline additional training or experience acquired in the interim. The board may, at its discretion, deny the candidate the privilege of reexamination.

Failure to exercise the privilege of reexamination within three (3) years, entails the filing of a new application with the usual application and examination fees.

After two failures in either Part I or Part II on the first application, the candidate may reapply and be readmitted to examinations once only. Exceptions to this ruling can be made only by action of the entire board in annual session, usually to be based upon evidence of additional training and experience sufficient to warrant such action.

CASE REPORTS

Case reports are to be sent by the candidate to the secretary as soon as possible after receiving notification of eligibility, and not later than the date of the Part I written examination.

Twenty-five (25) important obstetrical and gynecological case reports, in condensed form, are required. Five (5) cases may concern major illnesses, not necessarily operative. These reports must include a variety of material rather than a number of cases of one type and must be cases treated within four (4) years of the date of the candidate's application. The number of cases from one's residency service should not be more than half the total number.

These reports are not to be copied verbatim from hospital records, but must be sufficiently complete so that the examiners can evaluate the judgment of the candidate in his choice of procedure.

Candidate should indicate on each case record whether this is from his residency service or from his private practice and all records failing to have this information will be considered unacceptable.

These reports should be prepared in condensed form in line with the following items:

1. Heading each separate case report must be the hospital number and date, name of the hospital at which the patient was operated on, with all pertinent dates, together with the candidate's name or identifiable initials, name of each patient, name of operator (candidate). The case reports should be given sequence numbers from 1 to 25 and must specify whether from residency service or from private practice.
2. (*a*) Preoperative diagnosis and basis for this, in brief.
   (*b*) Postoperative diagnosis, based on findings.
3. Nature of operation, omitting descriptive technical details, but including pathologist's findings on tissue removed.
4. Critical summary or analysis of each case, with critical deductions derived from correctness or incorrectness of diagnosis, operative findings, postoperative course, and from final results on discharge from hospital and at six months "follow-up" examination.
5. Histories must be typewritten on standard size paper, 8½ x 11 inches, and must be assembled by individual cases.
6. Reports must not be bound with any form of binding other than light weight paper folders or covers.
7. Two (2) separate verified index lists of case reports must be made for each individual hospital at which operations were performed. All verifications must be formally signed by the responsible hospital official, attesting in each instance that the candidate was the operator and must state:

   Sequence numbers of case reports.
   Candidate's name at head of each page.
   Name and address of hospital.
   Whether from residency service or from private practice.
   Patients' names or identifiable initials.
   Patients' admission numbers.
   Date of each patient's admission.
   Date of each patient's operation.
   Date of each patient's discharge.

The critical summary or analysis which must be prepared for each case must include:

1. An account of the candidate's personal observations of the case both prior to and subsequent to operation.
2. The basis for the diagnosis.
3. The facts that determined the course of treatment. Details of operative technic should not be included.
4. Critical conclusions to be drawn from the outcome of the case.

Case reports which do not include such discussion and comments will not be reviewed or graded by the examiners.

Obstetrical case reports should show:

(*a*) Date of first prenatal visit and any special features bearing on the case.

(*b*) The weight and condition of the child at birth and at time of discharge from the hospital.

Obstetrical reports which do not include pelvic measurements either by calipers and, as indicated, by x-ray pelvimetry, will be considered incomplete.

For lists of certificate holders, of this, as other boards, consult the Directory of Medical Specialists (1946).

Make checks payable to the American Board of Obstetrics and Gynecology.

Communications should be addressed to the secretary.

AMERICAN BOARD OF OPHTHALMOLOGY

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ORIGIN, AIMS AND METHODS

In 1913 the American Ophthalmological Society, the Section on Ophthalmology of the American Medical Association, and the American Academy of Ophthalmology and Otolaryngology appointed committees to report on ophthalmic education.

In 1914 these committees recommended that medical schools of the first class establish graduate courses in ophthalmology leading to an appropriate degree, and that these courses should represent not less than two years of systematic work subsequent to taking the degree of Doctor of Medicine. There was unanimous agreement as to the need of systematized and standardized training of those who are to practice ophthalmology, but it was clear that, in the near future, the number who would take the complete course leading to such a degree would be small. Moreover, such a course would not solve the problem of differentiating, in some degree, between the competent and the incompetent among those now in practice of ophthalmology. The committees were continued and, in 1915, they made further recommendations, as a result of which a joint board was created consisting of three representatives from each of the three special societies.

In 1916, after much preliminary work, this board was organized as the American Board for Ophthalmic Examinations (later changed to "American Board of Ophthalmology"). It was incorporated May 3, 1917.

In 1934 the plan of organization was changed so that each component society elects four members, instead of three, to form the board. The members of this board are chosen in the same manner in which the presiding officers of these societies are selected. One is elected each year by each of the societies which are represented on the board, to serve for a four-year term.

As other specialties formed boards similar to the American Board of Ophthalmology the need for some supervising and coordinating control led to action by the American Medical Association in 1933 authorizing the Council on Medical Education and Hospitals: (1) to formulate standards of administration, based on those of the American Board of Ophthalmology, of Otolaryngology, of Obstetrics and Gynecology, and of Dermatology and Syphilology; and (2) to recognize officially new boards meeting these standards.

The Constitution of the Advisory Board for Medical Specialties which was organized in 1934 states that: "This Board shall act in an advisory capacity to such organizations as may seek its advice concerning the coordination of the education and certification of medical specialists."

The Advisory Board adopted June 10, 1934, a list of essentials for approved special examining boards. It is practically identical with the outline of essentials for approved specialty boards adopted June 10, 1934 by the Council on Medical Education and Hospitals and ratified June 11, 1934, by the House of Delegates of the American Medical Association.

PURPOSES OF THE BOARD

1. To elevate the standards of ophthalmology.
2. To determine the competence of practitioners professing to be specialists in ophthalmology.
3. To arrange and conduct examinations to test the qualifications of candidates who appear before the board for certification as specialists in ophthalmology.
4. To grant and issue certificates of qualification as specialists in the field of ophthalmology to candidates successful in demonstrating their proficiency.
5. To act as advisers to prospective students of ophthalmology.
6. To serve the public, hospitals and medical schools by preparing lists of specialists certificated by the board.

NO DEGREES OR LEGAL RESTRICTIONS

Each certificate granted or issued does not of itself confer or purport to confer on any person any degree or legal qualifications, privileges or license to practice ophthalmology, nor does the board intend in any way to interfere with or limit the professional activities of any duly licensed physician. Its chief aim is to elevate the standards of qualification for specialists in ophthalmology and to certify as specialists Doctors of Medicine who appear before the board for such recognition and certification, according to its requirements and regulations.

VALUE OF CERTIFICATE

Up to January 1, 1947, eighty-six examinations have been conducted and 2564 ophthalmologists have received the certificate of the board.

The American College of Surgeons recognized the certificate of this board as evidence of academic fitness in ophthalmology. Diplomates of this board applying for membership in the American College of Surgeons may be exempted from presenting case reports or be required to present half the customary number.

Many special eye hospitals as well as general hospitals in all parts of the country require the certificate for appointment or promotion on their staffs. In addition, many societies now require the certificate as a prerequisite for membership. The number of institutions and societies which require the certificate of the board is increasing.

Lists of those holding certificates from this board are published in the Directory of Medical Specialists; similar lists also appear in the American Medical Directory. This latter indicates diplomates of this and other boards by means of numerical symbols appearing in the biographic records, but does not give such special recognition to diplomates who are not members of the American Medical Association.

REQUIREMENTS

All candidates must comply with current board regulations regardless of time of filing application.

The secretary is not permitted to make decisions as to requirements. These rulings are made only by the Committee on Credentials after reviewing the candidate's formal application.

PREREQUISITES

1. High ethical and professional standing.
2. Full citizenship in the country where the candidate practices. (Limited to countries of North and South America, their possessions and territories.)
3. A degree from a medical school of high standing, satisfactory to the board and approved by the Council on Medical Education and Hospitals of the American Medical Association. An applicant whose training has been received outside of the United States and Canada, must present credentials satisfactory to the board and is required to have the certificate of the National Board of Medical Examiners if he has been in practice less than ten years.
4. Completion of an internship of not less than one year in a hospital approved by the same Council.
5. Not less than thirty-six months (a total of sixty months is required of candidates practicing both ophthalmology and otolaryngology) of combined study, training and practice of ophthalmology in approved medical schools, hospitals, clinics, dispensaries, laboratories, preceptorships and private practice.

GENERAL REQUIREMENTS FOR ALL CANDIDATES

1. Application forms must be filled out completely and accurately. Letters of endorsement, together with any other required credentials, must be sent to the secretary's office before the deadline date.
2. Fee of $100 remitted with application.
3. A list of papers or books published.
4. Preliminary conference.
5. Practical examination.
6. Special review of ophthalmic surgery.
7. Membership in the American Medical Association, or such other societies as are recognized for the purpose by the Council on Medical Education and Hospitals of the American Medical Association.

FEES

For preliminary conference and original examination, $100 (as mentioned above).

For reexamination in all subjects, $75.

For reexamination in one or more subjects, $35.

Examination must be taken within three years of date of application. Thereafter new application and fee are required.

The fees have been carefully computed on a basis of cost of examinations, and are used entirely for administrative expenses. Examiners serve without compensation other than actual expenses.

SPECIAL TRAINING

(Applicable so far as practicable after 1947)

This shall include:

1. Graduate study of the basic medical sciences which are fundamental to the intelligent practice of ophthalmology, particularly: anatomy, histology, embryology, optics, physiologic optics, visual physiology and psychology, pathology, bacteriology, pharmacology, disorders of ocular motility and binocular vision, perimetry, and in the skilful adjustment and use of instruments such as the ophthalmoscope, retinoscope, slit lamp and microscope. Mere factual knowledge is not sufficient; the candidate must have had training in the application of these subjects and in their use in clinical ophthalmology, especially in refraction.

2. Active clinical experience in approved hospitals, clinics, dispensaries and private practice. Library and laboratory facilities should be utilized for the intensive study of cases.

The subject matter to be covered under 1 and 2 is outlined in the syllabus prepared by the board.

These requirements may be met in various ways:

BASIC STUDIES

1. Histology, pathology, bacteriology, immunology.
2. Anatomy and embryology.
3. Perimetry.
4. Therapeutics and operations.
5. Optics and visual physiology.
6. Relation of the eye to general diseases.

These may be covered by:

A. *Graduate Study.*—By a curricular course in the basic sciences related to ophthalmology in an approved graduate medical school.

B. *Postgraduate Study.*—By courses in individual basic sciences related to ophthalmology as given at various approved institutions. The Home Study Course of the American Academy of Ophthalmology and Otolaryngology available to residents is recommended.

C. *Residency.*—By advanced study of these subjects during a residency and by correlation of the principles involved with clinical problems.

D. *Research, Fundamental and Clinical.*—By the detailed study, under supervision or as assistant to an experienced research worker, of some problem or topic which brings the basic sciences into direct relation with the concrete clinical problem.

CLINICAL EXPERIENCE

A. By residency in an approved hospital. The most desirable of these residencies have regular lectures covering the entire field of clinical ophthalmology and of the basic subjects as applied in clinical practice. Many of these have seminars at which residents report cases which they have carefully worked up. These are discussed by the other residents and by the staff and the method of presentation as well as the subject matter critically considered.

B. By residencies in hospitals where regular instruction by lectures and quizzes and seminars is not available. The syllabus issued by the board will guide the resident in his selection of topics to be studied.

C. By fellowships in ophthalmology.

D. By preceptorship with a well-trained and critical ophthalmologist.

E. After completing a residency it is of great advantage to secure a position in a clinic as fellow or assistant. This may require only part time work, but due credit will be given. Its value to the student depends on how much study he puts into it and on how competent his seniors are.

F. Research under competent critical and sympathetic supervision will give first hand insight into (1) the methods whereby old knowledge was and new knowledge is acquired and (2) the pitfalls which accompany attempts to enlarge the sphere of knowledge. Only in this way can the candidate evaluate basic facts in the intelligent critical way which is expected of the specialist in practice.

G. The candidate who cannot secure the type of residency he desires should not despair, for his progress depends far more on how he used his opportunities than on the opportunities themselves.

PRELIMINARY CONFERENCE

Preceding each examination the candidates are required to present themselves before members of the board to demonstrate their fitness for examination. Their training and experience will be reviewed together with their understanding of the basic sciences related to ophthalmology. Those who are found acceptable will then be notified to appear immediately following the conference for a practical and clinical examination in ophthalmology.

EXAMINATIONS

Examinations will be held annually at or near the time and place of the meeting of the American Medical Association; also at other times and places at the discretion of the board, depending on the number of applications from any region.

The board reserves the right to limit the number of candidates to be admitted to any one examination.

Candidates must be examined in all subjects covered by the Syllabus of the board. The time spent in preparation will count less than the knowledge and experience acquired as shown on examination.

PRACTICAL AND CLINICAL EXAMINATION

The subjects of the practical examination are as follows: External Diseases, Ophthalmoscopy, Histopathology, Refraction, Motility, Ophthalmic Surgery, Perimetry.

1. *External Diseases of the Eye and Adnexa.*—Various methods of examination, diagnosis and treatment.

2. *Ophthalmoscopy.*—Patient will be examined by the candidate and the findings described or drawn. A candidate is required to bring his own ophthalmoscope.

3. *Pathology.*—The candidate will demonstrate familiarity with general clinical pathology as well as the etiology, pathology and bacteriology of diseases of the eye. He will be asked to examine microscopic slides and to recognize normal and pathologic histology of the eye.

4. *Refraction.*—A candidate will examine patients and show mastery of various methods, and of the principles of refraction and of retinoscopy. He should bring his own retinoscope.

5. *Motility.*—The candidate will demonstrate on patients his familiarity with routine methods of examination and diagnosis.

6. *Ophthalmic Surgery.*—A candidate will demonstrate his surgical technic on animal eyes. He must bring his own equipment for performing an extra-capsular combined extraction of the lens.

Special Review of Surgical Cases. The board now requires of all candidates a list of ophthalmic operations performed within two years prior to examination. This list is to be presented with application.

The operations should be listed in groups of each type of surgery. The numbers of operations in each group must be totaled and the total number of all operations shown. The list must contain the following data:

(*a*) Date.

(*b*) Condition or conditions for which operation was performed.

(*c*) Name and character of operation.

(*d*) Identification by hospital or clinic number, or the name of a consultant or confrere who was present at the time of operation.

Circumstances which prevent any candidate from fulfilling this requirement should be fully explained, with detailed statement of candidate's surgical experience.

CERTIFICATION

The decision of the board is final as to the candidate's passing, failure or partial failure. The final action of the board is based upon the candidate's ethical and professional record, training and attainments, as well as on the results of his formal examinations.

Certified ophthalmologists should refer to themselves as DIPLOMATES of the American Board of Ophthalmology. (There are only twelve *members* of the board and these are elected from the three component societies.)

REEXAMINATION

Candidates may be reexamined as often as they desire on satisfactory evidence of adequate additional preparation and payment of reexamination fee. A minimum of one year must elapse between examinations when a candidate is conditioned in one or more subjects. A minimum of two years additional preparation is required of candidates who fail in all subjects. The board may, at its discretion, deny the candidate the privilege of reexamination.

REVOCATION OF CERTIFICATES

Each Certificate of Qualification may be revoked by this board in the event that:

1. Any representation or statement made to the board or to any of its representatives by the physician so certified, including the statements contained in his application for certification, shall have been false or intentionally misleading;

2. The physician so certified shall not in fact have been eligible to receive certification, irrespective of whether or not the facts constituting such ineligibility were known to or could have been ascertained by this board, its members, directors,

examiners, officers or agents at or before the time of issuance of such Certificate of Qualification;

3. Any rule governing examination for certification shall have been violated by the physician so certified and the fact of such violation shall not have been ascertained until after the issuance of the Certificate of Qualification;

4. The physician so certified shall violate the standards of ethical practice of medicine then accepted by organized medicine in the locality in which he shall be practicing; the forfeiture, revocation of suspension of his license to practice medicine; the expulsion from, or suspension from the rights and privileges of membership in any recognized medical society;

5. The physician so certified shall fail to comply with or violate, or if the issuance or receipt by him of such Certificate of Qualification shall have been contrary to or in violation of, the Certificate of Incorporation, the By-Laws or the Rules and Regulations of this board.

The American Board of Ophthalmology considers it unethical for physicians to divide fees, to pay commissions to any persons referring cases to them, and to accept commissions or rebates from any opticians, druggists, or makers of appliances in any way connected with the medical care of the patient.

Upon revocation of any Certificate of Qualification by this board as aforesaid, the holder thereof shall return his Certificate of Qualification and all other evidence of certification to the secretary of the board and his name shall be removed from the list of diplomates or Certificate holders of this board.

For complete lists of diplomates consult the Directory of Medical Specialists published by the A. N. Marquis Company, 210 E. Ohio Street, Chicago 11, Illinois.

Address all communications to the Secretary-Treasurer.

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INTRODUCTION

The tendency of an increasing number of physicians to limit their practice to a special branch of medicine has made it essential that the various recognized specialties organize qualifying boards to certify applicants who prove themselves competent. Recognizing this need, three major orthopaedic groups, viz., The American Orthopaedic Association, The Section on Orthopaedic Surgery of the American Medical Association, and the American Academy of Orthopaedic Surgeons, united in organizing a certifying board. This board was incorporated in the year 1934 as The American Board of Orthopaedic Surgery, Inc., and is officially approved by the Advisory Board of Medical Specialties and by the Council on Medical Education and Hospitals of The American Medical Association.

It is the purpose of the board to raise the qualifications and standards for the practice of orthopaedic surgery and to certify those surgeons who voluntarily comply with its requirements.

WHAT THE BOARD WILL ACCOMPLISH

1. Certification by the board will form a criterion by which interested lay and professional groups may judge the qualifications of an orthopaedic surgeon and will be a reliable guide in the choice of consultants.

2. Qualification of applicants for certification by the board indirectly results in improved teaching of orthopaedic surgery in medical schools and better care of patients on orthopaedic services of hospitals that have approved resident training programs.

Excerpts from Articles 1, 2, 7, 8, 9, 10, 11 and 12 of the By-Laws:

Article 1. *Section 1.* DEFINITION. Orthopaedic surgery is that branch of surgery especially concerned with the preservation and restoration of the functions of the skeletal system, its articulations and associated structures.

Article 2. *Section 2.* PURPOSES. To test and determine the qualifications of applicants for examination and to issue certificates to those found qualified.

Section 3. To prepare and maintain a registry of the holders of the certificates issued by the board.

Section 4. To serve the public, physicians, hospitals and medical schools by furnishing lists of those who have received the certificate of the board, and thus to assist in protecting the public against irresponsible and unqualified practitioners who profess to specialize in orthopaedic surgery.

Article 7. QUALIFICATION OF CANDIDATES. There are certain general qualifications applicable to all candidates for examination Part I and Part II. In addition, candidates must have had special training in orthopaedic surgery on one of the approved plans hereinafter described:

Section 1. GENERAL QUALIFICATIONS:

(a) He must be a citizen of the United States or Canada.

(b) He must be a graduate of a medical school approved by the Council on Medical Education and Hospitals of the American Medical Association. In the case of an applicant whose training has been received outside the United States or Canada, his credentials must be satisfactory to the Council on Medical Education and Hospitals of the American Medical Association and to the National Board of Medical Examiners; he must have engaged in the practice of orthopaedic surgery in the United States or Canada for at least three years prior to submission of his application.

(c) He must have served an internship in a general hospital acceptable to this board. Beginning in 1951 and thereafter, applicants for Part I of the examinations must have had a year of surgery in addition to their internship.

(d) He must be duly authorized to practice medicine in the state or province of his residence.

(e) He must be ethical and have good professional standing.

(f) He must be a member of the American or Canadian Medical Association before he can be declared as eligible for Part II of the examinations.

Section 2. SPECIAL QUALIFICATIONS: The trainee should realize that preparation for the specialty of orthopaedic surgery should include a sound knowledge of anatomy, pathology, physiology, bacteriology and biochemistry as these basic sciences apply to orthopaedic surgery. In addition he should have observation and first hand experience in the diagnosis, treatment, operative and postoperative care of recent and old fractures and other orthopaedic problems of adults and children. However, when so desired the trainee may substitute additional experience in fractures and adult orthopaedics for the work in children's orthopaedics as outlined in subsequent paragraphs.

Many hospital services approved for orthopaedic training have all phases represented in such proportion that they can be given concurrently over a three year period and provide a well balanced program. Such a plan of training is probably the most desirable. However, it is possible for one to obtain satisfactory training by taking various phases of the work in different institutions (matched training). In order to help the trainee plan a well balanced program of matched training the board suggests that it be arranged as follows: adult orthopaedics, one year or one third of the training period; fractures, six months or one sixth; basic sciences, six months or one sixth and children's orthopaedics, one year or one third, (as previously indicated a second year of fractures and adult orthopaedics may be substituted for the year of children's orthopaedics).

The clinical phases of training may be obtained in hospitals or under preceptors where adequate facilities are not available for instruction in the basic sciences. In such cases the trainee should spend at least six months in the graduate department of a medical school which can offer adequate facilities and instruction in these subjects.[1]

On completion of a year of internship and a year of surgery (the latter requirement being applicable to those who apply for Part I of the examinations in 1951 and thereafter), the trainee may take his special work in orthopaedic surgery by one of three plans: (1) Resident training on an orthopaedic service of a hospital approved by the Council on Medical Education and Hospitals. (2) Combined Resident Training and Assistantship. (3) Preceptorship.

(1) RESIDENT ORTHOPAEDIC TRAINING: The applicant should serve for three years as a resident in Orthopaedic Surgery on services approved by the Council on Medical Education and Hospitals. When taken as matched training, each of the required phases should be taken on a service approved for that particular phase and all phases must be covered. If the trainee elects to substitute additional adult orthopaedics and fractures for a year of children's orthopaedics, the training that is substituted must be acquired on an approved orthopaedic service

1. Further suggestions relating to basic science training and details concerning requirements for approved plans of resident training are published in a pamphlet which may be obtained from the secretary of the board.

and the total period of resident training must be three years. The type of credit available in various institutions is indicated by the symbols "A," "C," "F" and "S" in the lists of approved residencies published by the Council on Medical Education and Hospitals.

(2) COMBINED RESIDENT TRAINING AND ASSISTANTSHIP: In special instances, with the prior approval of the Committee on Resident Training, the board will recognize for not over two years of training in orthopaedic surgery, periods of training in which the candidate combines work as *resident* on a hospital service, with part-time assistantship to an orthopaedic surgeon certified by the American Board of Orthopaedic Surgery, provided that the major part of his time is spent by the candidate in the hospital service.

(3) PRECEPTORSHIP: In certain instances, the board may recognize training under the preceptorship plan. Before taking training under a preceptor, the applicant must have completed an internship and a year of surgery. The preceptor must be a diplomate of the board whose clientele is large enough to give the trainee experience in all phases of orthopaedic work. The trainee will be required to serve as *full time assistant* for five years and during this period the preceptor should devote special periods of time each week, outside of the routine hours employed in the hospital and office practice, to assist the trainee with organized courses of study similar to those covered during resident training. If facilities and instruction in the related basic sciences are not available, the trainee should spend at least six months of this five year period as a student in a recognized graduate medical school where these subjects can be provided. On completion of the five years under a preceptor, the trainee should engage in practice, limited to orthopaedic surgery, either alone or associated with a diplomate, for a further period of five years, before becoming eligible for Part II of the examinations.

Section 3. PRACTICE REQUIREMENT: These requirements are intended not only to test the applicant's determination to practice in an ethical manner and limit his practice to the special field of orthopaedic surgery, but also his ability to increase his scientific knowledge. Prior to making application for Part II, applicants who took training as residents on approved orthopaedic services, should have had at least two years of experience in practice limited to the field of orthopaedic surgery. Applicants who had preceptorship training, must have had five years of practice limited to the specialty. Applicants who did not take children's orthopaedics, but substituted adult orthopaedics and fractures instead, must have limited their practice to the same field in which they were trained.

Section 4. CREDIT FOR SERVICES WITH THE ARMED FORCES: Because in some instances applicants who served with the Armed Forces acquired good training in orthopaedic surgery, credits up to a maximum of two years, may be allowed. Such credit, however, may be granted only on presentation of evidence that such service is, in the opinion of the Committee on Eligibility, equivalent to similar periods of approved resident training. Those requesting credits for training acquired while in the service, should submit their completed Record of Professional Assignments with their application.

(a) A year of orthopaedic experience with the Armed Forces, when approved by the Committee, *may* be accepted to replace one of the three required years of orthopaedic training.

(b) A second year of orthopaedic service with the Armed Forces may be credited as a year toward the practice requirement.

(c) Credit for military service will be considered for assignments covered between January 1941 and July 1946.

Article 8. *Section 1.* EXAMINATIONS. Application for examination: Applications for examinations, Part I and Part II, shall be filed with the secretary upon the prescribed forms and shall be accompanied by the prescribed fees which the board may fix from time to time. The required data shall be entered in *typewritten* form and the application must be accompanied by an unmounted *autographed* recent photograph of the applicant. The names of two diplomates of the board shall be supplied by the candidate for reference.

The completed application must be filed with the secretary at least 60 days prior to date set for examination.

The data submitted in each application must be checked and verified in the offices of the American Medical Association.

Letters of reference shall be obtained by the secretary from diplomates whose names have been submitted by the applicant. Additional information may be sought from other available sources.

If an application has been approved, the candidate will be notified by the secretary and should then forward the required fee for the examination, Part I or Part II, as the case may be.

Section 2. COMMITTEE ON ELIGIBILITY: A committee of three members from the board, to be designated the "Committee on Eligibility," shall meet with the secretary at least thirty days prior to the examination and review the data submitted in each application. They shall determine whether or not the applicant has fulfilled the requirements specified by the board for practice of the specialty. This committee shall have the authority to approve or reject the applicant and shall direct the secretary to give him written notice of their decision. No applicant shall be rejected except when the committee as a whole has reviewed his data and has voted unanimously that he is not qualified for the examination. If the rejection is based on inadequate training, the committee shall indicate the additional training that will be required. When applications for Part I of the examination are reviewed, the committee can on request of the applicant, designate the amount and character of additional training that he should take to qualify for Part II.

Section 3. ADVISORY COMMITTEE OF SERVICE CONSULTANTS: The Committee on Eligibility shall be privileged to form an Advisory Committee of Service Consultants to consist of diplomates who served as Orthopaedic Consultants in the various divisions of the Armed Forces during World War II. This committee, or any of its members, may be called on to assist in evaluation of orthopaedic training obtained by an applicant while serving with the Armed Forces.

Section 4. EXAMINATIONS: Applicants for certification will be required to take the examination of the board in *two* parts. No applicant *shall be permitted to take both parts of the examination at the same time, nor can he be permitted to take Part II until he has successfully passed Part I.* These may be held in different places and on different dates to meet the needs and convenience of candidates and board members. Announcement of the time and place for examination will be made through the medical journals.

(1) EXAMINATION PART I

A committee of three members of the board shall be appointed by the president and shall be charged with the responsibility for setting the dates and places for examination, securing additional examiners to assist in the work, formulating the program of subjects and interviews for the oral quizzes, and providing questions for the written examination. This committee will likewise be responsible for the arrangements at each place the examination may be held.

(2) EXAMINATION PART I

(a) ELIGIBILITY FOR EXAMINATION PART I: Minimum requirements for eligibility for examination, Part I, shall consist of completion of an internship (and a year of surgery effective for Part I in 1951), followed by at least a year of resident training in orthopaedic surgery on an approved service.

Applicants who have completed more than this minimum requirement are eligible for Part I at any time up to completion of their full requirements; however, candidates who are fully qualified must submit application for Part I and successfully pass this examination before submitting application for Part II.

Candidates who make application based on preceptorship training will be considered by the Committee on Eligibility on completion of an internship and a year of resident training in surgery, followed by five years as a full time assistant under a preceptor who is a diplomate of the board.

(b) EXAMINATION, PART I: This part shall consist of a written examination and oral interviews covering those parts of anatomy, pathology, physiology and biochemistry related to surgery and orthopaedics. In addition there will be questions on fundamental surgical principles, elementary fractures and orthopaedic procedures, history-taking and physical examination.

(3) EXAMINATION, PART II

(a) ELIGIBILITY FOR EXAMINATION, PART II: Candidates applying for examination, Part II, must have successfully passed Part I and must have completed the prescribed training and practice periods, as defined in Article 7, Section 2.

A separate application for Part II must be completed and forwarded to the secretary, together with the required application fee, at the specified time.

(b) EXAMINATION, PART II: This part of the examination will be given in only one city once each year. It will consist of oral quizzes and a written examination covering the advanced work in all phases of orthopaedic surgery. The oral examinations will include an interview in anatomy, pathology, fractures, congenital and acquired deformities, static and postural defects and other orthopaedic subjects.

(c) Applicants who have qualified with a year of children's orthopaedics will have separate written and oral questions related to this phase of orthopaedic surgery.

In certain instances, on recommendation of the Committee on Eligibility a representative of the board may be requested to make a visit of inspection to review the applicants' work in his own community. In other instances, the committee may require the candidate to submit copies of complete records of twenty-five major surgical cases and abstracts of an additional twenty-five cases.

(4) Examinations Grades

The written examination shall represent 50 per cent of the total grade and each of the five oral interviews shall represent 10 per cent of the grade. The grades on oral interviews shall be entered by each examiner immediately at the close of the interview.

The written examination shall be graded by board members and every paper falling below the passing mark must be reviewed by two additional examiners. After the grades are totaled, they shall be reviewed by the board as a whole and the individual grades of each candidate who has failed shall be thoroughly reviewed and discussed. No candidate shall be notified of failure except with the unanimous consent of the entire board.

(5) Re-examination

An applicant who fails to pass Part I or Part II of the examinations may be re-examined a second and third time in each part by paying the prescribed examination fee each time he is re-examined. Additional *application* fees are *not* required for re-examination. The applicant who fails must appear for his second or third re-examination within three years after the first failure. After three years a new application with the appropriate fee must be submitted.

After three successive failures in Part I or Part II of the examinations the applicant must have had additional graduate training in orthopaedic surgery before submitting a new application.

Article 9. *Section 1.* Certification: When an applicant has successfully passed Part II of the examinations he shall be entitled to a certificate of the board. This certificate shall state that he has been found by this board to be qualified to practice the specialty of orthopaedic surgery. The certificate shall be issued in such form as may be adopted by the board and shall be signed by the officers and members of the board.

Section 2. No certificate will be issued to candidates who have only successfully passed Part I of the examinations but they will be given due notice by the secretary in writing that they have passed the examination.

Section 3. An up-to-date listing of all those who have been examined and certified by the board, shall be prepared annually by the secretary and copies shall be mailed to each diplomate. Those whose training includes a year of children's orthopaedics shall be indicated in these listings by an appropriate symbol.

Article 10, *Section 1.* Seal. A seal containing the words and numerals "American Board of Orthopaedic Surgery, MCMXXXIV," around the outside with the words "Orthos and Pais" in Greek in the center with the word "Incorporated" above the center and the word "Delaware" below the center, is hereby adopted as the corporate seal.

Article 11. Standing Committees: There shall be three standing committees of the board and the vacancies that occur as a result of termination of service or resignation of members shall be filled by appointment by the president.

Each of these committees shall consist of three members. The Committees are as follows:

(1) The Committee on Eligibility.
(2) The Committee on Examinations.
(3) The Committee on Resident Training.

Section 1. The Committee on Eligibility shall consist of three members whose duties are described under Article 8, Section 2.

Section 2. The Committee on Examinations shall consist of three members whose duties are described under Article 8, Section 4, (1).

Section 3. Because the Council on Medical Education and Hospitals requires that a committee from the board review and advise with it on applications for approval of resident training programs, the president shall appoint a committee of three board members to be known as the Committee on Resident Training. The secretary shall refer to this committee all questions relating to resident training and may call a meeting of the committee to confer with members of the Council from time to time as may be required. This committee shall also advise with the Joint Committee on Postgraduate Training from the American Orthopaedic Association and the American Academy of Orthopaedic Surgeons in regard to approval services and standards of training.

Article 12. *Section 1.* Amendments: These By-Laws may be amended, modified or repealed by the vote of at least five members at any regular or special meeting of the board; provided however, written notice of the proposed action stating the substance thereof shall have been given each member at least twenty days before the meeting.

TIMES AND PLACES FOR EXAMINATION

Examination, Part I, will be given probably during May of each year in various centers that will be designated by the board. The secretary will give applicants advance notice of the date, place and hour.

Examination, Part II, will be given in one place and probably not oftener than once each year. As a rule it will be in connection with the meeting of the American Academy of Orthopaedic Surgeons and will precede the meeting.

FEE SCHEDULE

(1) Application, Part I, fee $15.00, not returnable.
(2) Examination, Part I, fee $35.00, payable only by those approved by the Committee on Eligibility and forfeited if the candidate fails to appear for the next scheduled examination.
(3) Application for Part II, fee $15.00, not returnable.
(4) Examination, Part II, fee $35.00, payable only by those approved by the Committee on Eligibility and forfeited if the candidate fails to appear for the next scheduled examination.
(5) Re-examination. See Article 8, Section 4, (5).

This fee schedule effective as of January 19, 1946.

Address all communications to the secretary-treasurer.

AMERICAN BOARD OF OTOLARYNGOLOGY

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ORIGIN, AIMS AND METHODS

In 1916 the American Academy of Ophthalmology and Otolaryngology appointed a committee consisting of Drs. J. C. Beck, Thomas E. Carmody and John M. Ingersol to examine candidates in otolaryngology. The following year Drs. Harris P. Mosher, Ross Hall Skillern and Robert M. Lynch were added to the committee.

In 1924, through the efforts of Dr. George Shambaugh, Sr., the above committee was enlarged to include representatives from each of the following societies: The American Laryngo-

logical, Rhinological and Otological Society; The American Academy of Ophthalmology and Otolaryngology, and the Section of Laryngology, Otology and Rhinology of the American Medical Association. Each organization appointed two members, making a total of ten which constituted the first American Board of Otolaryngology. The original members were: Dr. J. C. Beck of Chicago; Dr. T. E. Carmody of Denver; Dr. T. H. Halstead of Syracuse, N. Y.; Dr. H. W. Loeb of St. Louis; Dr. R. C. Lynch of New Orleans; Dr. H. P. Mosher of Boston; Dr. B. R. Shurly of Detroit; Dr. R. H. Skillern of Philadelphia; Dr. F. R. Spencer of Boulder, Colorado, and Dr. W. P. Wherry of Omaha, Nebraska.

OBJECTIVES

The objectives of the American Board of Otolaryngology are to establish the qualifications for the practice of otolaryngology and to hold examinations and to certify those otolaryngologists whom the board finds qualified.

The Articles of Incorporation state the objectives of the board as follows: "The object of the corporation shall be to elevate the standards of otolaryngology, to familiarize the public with its aim and ideals, to aid in the protection of the public against irresponsible and unqualified practitioners, to receive applications for examination in otolaryngology, to conduct examinations of applicants, to issue certificates of qualification in otolaryngology as authorized by the board and to perform such acts as will advance the cause of otolaryngology.

REQUIREMENTS

The following qualifications are required by the board:

1. A candidate acceptable for the examination must have been a citizen of the United States (or Dominion of Canada) for at least five years, a graduate of a medical school approved by the Council on Medical Education and Hospitals of the American Medical Association, have had at least one year's general internship in an approved hospital (or its equivalent), and be of good moral character and ethical in his professional relations. Candidates from foreign countries must be permanent residents and citizens thereof, and meet the general requirements above.

2. A candidate must have membership in the American Medical Association, the Canadian Medical Association, or other medical societies of equal standing recognized by the Council on Medical Education and Hospitals of the American Medical Association.

3. Each candidate must have had acceptable training in the basic sciences which are fundamental to the intelligent practice of otolaryngology, including anatomy of the ear, nose, throat, neck, chest, esophagus and related nervous systems, pathology, bacteriology, physiology, didactic otolaryngology and fundamentals of surgery. This requirement may be met by its inclusion in resident training or by a formal postgraduate course.

4. (a) EFFECTIVE UNTIL 1950—a candidate must have completed a two years' residency in otolaryngology or a three years' residency in ophthalmo-otolaryngology and have restricted his practice to otolaryngology (or ophthalmo-otolaryngology) for a minimum of three years or four years respectively, which may include the period of training.

4. (b) EFFECTIVE AFTER JULY 1, 1950—candidates must pursue a course of three years' study in otolaryngology, or four years' study if ophthalmology be included (in which case there must be a minimum of 50 per cent spent in the study of otolaryngology). The three years may be spent in an approved residency of that duration, which residency may include study of the basic sciences as specified above, or the candidate may pursue a formal course in the basic sciences, and complete his training with a residency which will give him a total of three years' study in the specialty. In addition to the above, the candidate must have had a minimum of one year in practice limited to the specialty.

5. (a) EFFECTIVE UNTIL 1950—five years' practice limited to otolaryngology (or ophthalmo-otolaryngology) may be accepted in lieu of the requirements in section 4-a, subject to the approval of the Credentials Committee of the board.

5. (b) EFFECTIVE AFTER JULY 1, 1950—a candidate, in addition to the requirements in Nos. 1, 2 and 3, may qualify for examination if he has limited his practice to otolaryngology (or ophthalmo-otolaryngology) for six years.

6. Candidates who cannot meet all of the above requirements may be accepted for examination in exceptional circumstances but only upon the recommendations of the Credentials Committee.

7. A limited certificate in one of the subspecialties of otolaryngology may be issued at the direction of the board.

All candidates must comply with current board regulations, regardless of the time of filing application.

CREDIT FOR MILITARY SERVICE

The board will allow credit for one year restricted practice while in the armed forces. Further credit may be allowed at the discretion of the board, based on the merits of the individual case and governed by the authenticated medical officer's record.

APPLICATION AND FEES

1. Application must be made in duplicate on special blanks procured from the secretary. The completed application blank must be returned to the secretary, together with the other required credentials, 120 days in advance of the examination at which the candidate desires to appear.

2. The applications must be accompanied by two small photographs of the candidate, together with verification of the period of enrollment from the institutions where training in otolaryngology was obtained, and the names of two or more otolaryngologists, preferably diplomates of the board, from the vicinity of the candidate's place of residency, to be used as references.

3. The fee for the examination is $100, no part of which is returnable. Of this sum $25 must accompany the application. No application will be acted on until the $25 application fee is received. The balance of the fee—$75 must be paid to the secretary upon notification that the candidate has been accepted for examination and at least 90 days in advance of the date of examination. A reexamination fee of $50 is required of candidates conditioned in one or more subjects.

4. The fees have been carefully computed on a basis of cost of examinations and are used entirely for administrative expenses. Examiners serve without compensation other than actual expense.

5. The application remains valid for three years. An applicant must appear for examination within this time or forfeit the fee.

6. The board, acting as a committee of the whole, reserves the right to reject an applicant for any reason deemed advisable and without stating the same and the action of the board shall be final.

EXAMINATION

Examination will be held at such time and place as the judgment of the board may dictate. Advance notice of examinations will be given in The Journal of the American Medical Association and the several special journals devoted to otolaryngology. So far as is possible these will be held biannually at or near, the time and place of meeting of the American Medical Association, or special societies, and of the American Academy of Ophthalmology and Otolaryngology. The examinations cover from two to four days.

The type of examination is as follows:

(1) Clinical, covering the actual handling of patients, including history taking, physical and functional examinations, the use of laboratory and x-ray findings and a discussion of differential diagnosis.

(2) Didactic, oral examinations covering all phases of otolaryngology, including physiology.

(3) Gross and microscopic pathology.

(4) A written examination may be included when the board deems this advisable.

REEXAMINATION

A candidate who is conditioned in his examination may be admitted to a subsequent examination after one year and within the three-year period dating from his application on payment of an additional fee of $50 and 120 days' notice of intention to appear is required.

Candidates who have failed in the examination may be accepted for reexamination upon recommendations of the Credentials Committee. Satisfactory evidence of further study and progress will be required. A new application must be filed and accompanied by the regular fee of $25 and the balance of the fee—$75 will be due on notification of acceptance.

CERTIFICATION

1. A certificate granted by the board does not of itself confer or purport to confer any degree or legal qualifications, privileges or license to practice otolaryngology, nor does the board intend or attempt in any way to interfere with or limit the professional rights and activities of any duly licensed physician. Its aim is to improve the standards of practice of otolaryngology and to certify as specialists those who voluntarily comply with its requirements and regulations.

2. The final action of the board is based on the candidate's ethical and professional record, training and attainments, as well as on the results of his formal examinations.

REVOCATION OF CERTIFICATES

The certificates issued by the board are subject to the provisions of the articles or certificate of incorporation, the by-laws

and action of the board, and each certificate is subject to revocation in the event that: (a) the issuance of such certificate or its receipt by the physician so certified shall have been contrary to any of the provisions of the certificate of incorporation or by-laws: or (b) the physician so certified shall not have been eligible to receive such certificate, irrespective of whether or not the facts constituting him so ineligible were known to or could have been ascertained by the directors of the board at the time of the issuance of such certificate: or (c) the physician so certified shall have made any misstatement of fact in his application for such certificate or in any other statement or representation to the board or its representative: or (d) the physicians so certified shall violate the standards of ethical practice of medicine or shall have been convicted by a court of competent jurisdiction of a felony or of any misdemeanor involving, in the opinion of the Board of Directors, moral turpitude in connection with his practice of medicine: or (e) the physician so certified shall have had his license to practice medicine revoked or shall have been disciplined or censured as a physician by any court or other body having proper jurisdiction and authority.

CANDIDATE'S PLEDGE

Candidates are required to sign the following pledge:

I HEREBY APPLY to the American Board of Otolaryngology for examination by the said board in accordance with its rules and herewith enclose the application fee of $25.00 which is not returnable. I understand that the balance of $75.00 is to be paid if and when accepted for examination and is likewise not returnable. I hereby agree that prior to an examination, or subsequent to my examination, the board may investigate my standing and reputation as a physician, including my reputation for complying with the standards of ethics of the profession, and may refuse to examine me, or, having examined me, may refuse a certificate and such refusal may be for any reason deemed advisable and without stating same, and any refusal to grant a certificate may not and shall not be questioned by me in any court or law or equity or other tribunal, or otherwise nor shall I have any claim of any kind in the event of such refusal nor shall I be entitled to a return of the fee accompanying the application. I further agree to be bound by the provisions of the articles of incorporation as amended from time to time and all by-laws whether now in force or hereafter enacted.

Address all communications to the secretary-treasurer.

AMERICAN BOARD OF PATHOLOGY

N. C. FOOT, President, New York.
F. WILLIAM SUNDERMAN, Vice President, Philadelphia.
ROBERT A. MOORE, Secretary-Treasurer, Washington University School of Medicine, St. Louis 10.
PAUL R. CANNON, Chicago.
R. PHILIP CUSTER, Philadelphia.
JOSEPH A. KASPER Detroit.
JAMES W. KERNOHAN, Rochester, Minn.
JAMES B. MCNAUGHT, Denver, Colo.
EDWIN W. SCHULTZ, Stanford University, Calif.
SHIELDS WARREN, Boston.

ORGANIZATION AND OBJECTIVES

In June, 1935, the Section on Pathology and Physiology of the American Medical Association and the American Society of Clinical Pathologists appointed committees which acted jointly in consideration of the feasibility and necessity of a national qualifying board. The joint committees agreed unanimously that such a board should be established and proceeded to draw up by-laws for such a board. In May 1936 the American Society of Clinical Pathologists and the Section on Pathology and Physiology of the American Medical Association accepted the proposed by-laws, authorized the nomination of four members each to the board and suggested incorporation in the state of Michigan. Approval of the board by the Advisory Board for Medical Specialties and the Council on Medical Education and Hospitals of the American Medical Association was given. On July 19, 1936, the organization of the board was carried out in Chicago.

Dr. Karsner of the American Medical Association Section and Dr. Foord of the American Society of Clinical Pathologists, whose terms on the board expired in 1938, were renominated by their respective organizations and were reelected by the board.

Dr. E. B. Krumbhaar, who had served as a member of the board since its inception, resigned in 1940, and his resignation was regretfully accepted. Dr. N. Chandler Foot of New York was elected by the board to fill Dr. Krumbhaar's unexpired term. Drs. Sanford and Lamb were renominated to the board by the American Society of Clinical Pathologists and Drs. Moore and Hartman were renominated by the Section on Pathology and Physiology of the American Medical Association.

At the fall meeting in 1942 two new members, Dr. Paul R. Cannon, Professor of Pathology at the University of Chicago, and Dr. Robert A. Moore, Professor of Pathology of Washington University, St. Louis, were elected to the board under the provision that trustees at large could be elected at the discretion of the board itself. These new members, representing as they do the younger group of professors in leading medical schools, have already proven themselves invaluable in the conduct of board activities.

In 1943, at the annual business meeting, the American Society of Clinical Pathologists made no nomination for the Board of Pathology in view of the fact that the Section on Pathology and Physiology of the American Medical Association held no meeting and made no nomination. In accordance with the by-laws Drs. Kracke and Foot continue on the board until nominations and elections are made.

In 1944, Dr. Kracke and Dr. Foord of the American Society of Clinical Pathologists had completed two terms and therefore, under the By-Laws, were not eligible for reelection. Dr. James B. McNaught, Professor of Pathology, University of Colorado, and Dr. F. William Sunderman, Associate Professor of Medical Research, University of Pennsylvania, were nominated by the American Society of Clinical Pathologists and elected by the board. In addition, the board elected a third member at large, Dr. R. Philip Custer of the Presbyterian Hospital, Philadelphia.

The annual meeting of the board in 1946 was a most important one. Four members of the Trustees who had served since the founding, Dr. Arthur H. Sanford, Dr. Frederick H. Lamb, Dr. F. W. Hartman, and Dr. J. J. Moore, had served two terms. With the election of their successors, the Board of Trustees was made up entirely of those who had not participated in the initial organization. The American Medical Association Section nominated Dr. James Kernohan of the Mayo Foundation and Dr. R. Philip Custer (a member-at-large), and the American Society of Clinical Pathologists nominated Dr. Edwin W. Schultz of Stanford University and Dr. Joseph A. Kasper of Detroit.

Officers of the board elected in 1946 were reelected in 1947 as follows:

Dr. N. C. Foot, President.
Dr. F. William Sunderman, Vice-President.
Dr. Robert A. Moore, Secretary-Treasurer.

PURPOSES OF THE BOARD

A. To encourage the study and promote the practice of pathology.

B. To elevate the standards and advance the cause of pathology by encouraging its study and improving its practice.

C. To determine the competence of those wishing to practice this specialty of pathology and to arrange, conduct and control investigations and examinations to determine the qualifications of such individuals who voluntarily apply for the certificates issued by the corporation.

D. To grant and issue certificates in the special field of pathology to voluntary applicants therefor and to maintain a registry of holders of such certificates.

E. To serve the public, the medical profession, hospitals and medical schools by preparing and furnishing lists of specialists who have been certified by the corporation.

VALUE OF THE CERTIFICATE

Judging from the experience of other specialties operating a certifying board it is anticipated that the certificate will be of value in that the medical profession, the lay public, and hospital administrators will utilize certificates from the board as a means of discriminating between those that are thoroughly qualified in pathology and those that are not. Lists of those holding certificates will be made available from time to time by this board through the publication of the same in pamphlets and in national medical journals.

BOARD NOT AN EDUCATIONAL INSTITUTION

The board is in no sense an educational institution and the certificates of the board are not to be considered degrees. Therefore the certificate does not confer on any person legal qualifications, privileges, or license to practice medicine or the specialty of pathology. The board does not purport in any way to interfere with or limit the professional activities of any licensed physician. Its chief aim, as stated above, is to standardize the qualification for the specialty of pathology and to issue certificates to those voluntarily complying with the requirements of the board.

GENERAL REQUIREMENTS

A. General qualifications:

1. Satisfactory moral and ethical standing in the profession.
2. License to practice medicine.
3. Membership or associate membership in the American Medical Association or by courtesy membership in such Canadian or other national medical societies as are approved by the Council on Medical Education and Hospitals of the American Medical Association.
4. That the applicant devotes his time primarily and principally to the practice of pathology.

B. Professional education.[1]

1. Graduation from a medical school in the United States or Canada, approved by the Council on Medical Education and Hospitals of the American Medical Association.

C. Special training, to be effective after July 1, 1938:

1. Completion of an internship of not less than one year in a hospital approved by the Council on Medical Education and Hospitals of the American Medical Association.
2. A period of study, exclusive of internship, of not less than three calendar years, exclusive of reasonable vacation periods, in an institution recognized by the same Council and the Board of Trustees as competent to provide a satisfactory training in the field of pathology. This period of special training preparation shall include the following:
(a) Graduate training for one year in the various phases of clinical pathology.
(b) Training and experience of not less than two years in a department of pathologic anatomy.
(c) Such training may be combined or in sequence.
3. A fifth year of training or practice in pathology.

D. Special qualifications:

1. The board may accept candidates without special training as outlined in Section C above provided that:
(a) The candidate shall have been for a period of five years of professorial rank in a department of pathology in an approved medical school, before 1939; or the candidate shall have been practicing pathology for ten years before 1939 in a senior position in a hospital having an adequate department of pathology, and approved by the Council on Medical Education and Hospitals of the American Medical Association. Candidates with the qualifications outlined above may be certified without examination at the discretion of the board until Dec. 31, 1947.
(b) The candidate shall have been in the practice of pathology for ten years after internship. . . . For each year of training these candidates have received which met the qualifications outlined under "2" of Section C of General Requirements, two years of credit will be given toward the ten which they must ultimately have to become eligible for examination. Candidates with the qualifications outlined in this paragraph may become eligible for examination at the discretion of the board.

CREDIT FOR MILITARY SERVICE

Credit is allowed for training and experience in pathology as it may be acquired by the applicant during his military service. This credit for training or experience or both is given on an individual basis and will depend upon the opportunity the applicant has had as indicated by his medical service record in the specialty of pathology.

After July 1, 1947, no credit will be given to those in the regular corps of the military services or Public Health Service, except for training comparable to that outlined in Sections C and D of General Requirements. This rule does not apply to those serving in the Reserve Corps.

APPLICATION BLANK AND FEE

Application must be made on the special form which may be procured from the secretary and forwarded with other required credentials and the application fee. Applications cannot be given consideration by the board unless accompanied by the application fee.

The application or examination fee for candidates is $35.00. If certified without examination, $10.00 of fee will be refunded. If the candidate fails in his examination he will be admitted to a second examination after one year, but not later than three years, without additional fee. After two reexaminations the applicant must file a new application and pay an additional fee before a fourth examination will be given.

The examination fee of $35.00 has been arrived at after careful consideration, and is based on actual estimates of the expense of examination and administration. None of the board members receive any compensation for their services except actual expenses incurred.

If the applicant, for any reason, is deemed ineligible for examination by the board his fee will be returned; however, the application fee is not returnable after the candidate has officially been accepted for examination and notified to report for same.

EXAMINATIONS

Written and oral examinations will be held at or near the time and place of national medical meetings at the discretion of the board. If a number of applications from any region of the country are received an examination in conjunction with a national meeting in that section will be arranged so that the financial outlay of the applicant in meeting the examiners will be as small as possible.

The examinations are to be based on the broad principles of pathology with emphasis on diagnosis and interpretation. The applicant may apply for certification in either pathologic anatomy or clinical pathology, or both.

DEFINITIONS

1. Pathologic anatomy is that branch of pathology which deals with the morphologic aspects of disease, recognition being given that this definition covers two phases of pathology.
(a) The applied phase, with special attention to biopsy description and diagnosis.
(b) The academic phase of teaching and general morphological diagnosis.
2. Clinical pathology is that branch of pathology which deals with bacteriology, immunology, biochemistry, parasitology, hematology, and clinical miscroscopy, in relation to the diagnosis, prognosis, and treatment of clinical disease.

REEXAMINATIONS

In case the candidate fails in the qualifying examination he will be eligible for reexamination after one year has elapsed, but he must give written notice of his intention to appear for reexamination. Two reexaminations are allowed without an additional fee, provided they are taken within a three year period. The candidate who fails three times must file a new application and pay a second $35.00 fee before he is eligible for further examination.

REVOCATION OF CERTIFICATES

Certificates issued by the American Board of Pathology are subject to the provisions of the Articles of Incorporation, No. XI, Section 4. Any certificate issued by the Board of Trustees shall be issued subject to revocation in the event that:

A. The physician or party so certified shall have made any misstatement of misrepresentation of a material fact in his application, or in any other communication to the board or its representatives, which misstatement of misrepresentation affected the eligibility of the physician or the party so certified.

B. The issuance of such certificate has been made contrary to or in violation of any of the rules, laws or regulations of this corporation.

C. It is ascertained that the physician or party so certified is not eligible in fact to receive such certificate.

D. The physician or party receiving such certificate shall prior to the issuance of such certificate or thereafter have been convicted by a court of competent jurisdiction of a felony or of any misdemeanor in the opinion of the Board of Trustees, shall involve moral turpitude.

E. The physician or party receiving such certificate shall prior to or thereafter have his license to practice medicine revoked.

F. The physician or party receiving such certificate shall be expelled from any of the societies or organizations making him eligible to this corporation as an applicant for such certificate.

Address all communications to the Secretary-Treasurer.

1. In case of an applicant whose education and/or training has been received outside the United States or Canada, his credentials must be acceptable to the National Board of Medical Examiners and the American Board of Pathology.

AMERICAN BOARD OF PEDIATRICS

C. ANDERSON ALDRICH, President, Rochester, Minn.
DONOVAN J. MCCUNE, Vice President, New York.
LEE F. HILL, Secretary-Treasurer, 718 Royal Union Building, Des Moines, Iowa.
HUGH MCCULLOCH, St. Louis.
CHARLES F. MCKHANN, Cleveland.
M. HINES ROBERTS, Atlanta, Ga.
EDWARD B. SHAW, San Francisco.
HAROLD C. STUART, Boston.
ASHLEY A. WEECH, Cincinnati.

ORIGIN

The American Board of Pediatrics was established in June 1933 by joint action of the American Pediatric Society, the American Academy of Pediatrics and the Section on Pediatrics

of the American Medical Association after consideration of the report of a committee on pediatrics as a special field of medical practice. The committee recommended that the certification plan adopted and in use in the fields of ophthalmology, otolaryngology, gynecology and obstetrics, and dermatology be adapted to pediatrics. Similar boards have been subsequently formed in the other special fields.

In order to correlate the activities of the various qualifying boards there has been formed the Advisory Board for Medical Specialties, composed of representatives of all the qualifying boards, including the American Board of Pediatrics, as well as representatives of the Association of American Medical Colleges, the National Board of Medical Examiners, The Federation of State Medical Boards of the U. S. A. and The American Hospital Association.

Any method of certification in any specialty must be national in scope, must in its ultimate analysis be controlled by the men in each special field and must be independent of society membership or affiliation. The American Board of Pediatrics fulfils these three essentials: A uniform standard of competency is set up, the character of which is assured through the affiliation with the Advisory Board for Medical Specialties; the board is controlled by pediatricians, its membership being composed of three men appointed by each of the three national pediatric societies; the board is not a medical society, however, and certification is independent of society affiliation.

The American Board of Pediatrics was incorporated in the state of Delaware in November 1933 as a nonprofit organization.

FUNCTION

The functions of the board are outlined in the articles of incorporation as follows:

"To encourage the study, improve the practice and elevate the standards of pediatrics; and to grant and issue to physicians, duly licensed by law, certificates or other equivalent recognition of special knowledge in pediatrics."

The board has interpreted this to mean that its efforts to encourage and improve the practice of pediatrics shall be limited to its function of certification of competency in the specialty. Obviously other organizations are better able to further the general improvements in pediatrics.

The board specifically defines its activities as follows:

1. To establish standards by which the competency of men to practice pediatrics as a specialty may be estimated.
2. To arrange, control and conduct examinations to test the qualifications of those desiring certification as pediatricians.
3. To grant certificates of qualification to those applicants who meet the standards successfully.

The board further feels that in carrying out these activities it is merely acting as the agent of the three societies which appointed its members and initiated the project.

No financial recompense of any kind is made to any member of this board except to cover actual traveling expenses to meetings and examinations.

The application fee is $125.00 and this fee is used entirely for administrative expenses.

CERTIFICATE—NOT A DEGREE

Certificates granted are in no sense degrees, nor do they purport to confer on any person any legal qualification, privilege or license to practice pediatrics. Neither does the board intend in any way to limit the activities of any licensed physicians. It is merely attempting to standardize qualifications and to issue certificates to those who voluntarily comply with the requirements.

VALUE OF THE CERTIFICATE

It is anticipated that the certificate will become of value in that both the medical and lay public, including hospital directors, will soon utilize the certificate from this board as an aid in judging between those who are well grounded as pediatricians and those who are not.

A certificate is now required as one of the qualifications for membership by the American Academy of Pediatrics. The certificate of the American Board of Pediatrics is recognized by the Council on Medical Education and Hospitals of the American Medical Association. Holders of certificates are so designated in the directory of the American Medical Association.

A joint Directory of Specialists certified by the fifteen major boards was published in 1942 by the Advisory Board for Medical Specialties. A new edition has been recently published by The A. N. Marquis Company, 210 East Ohio Street, Chicago 11, Illinois.

Lists of those holding certificates from this board are published in this Directory of Medical Specialists and additional lists of new licentiates are published in the Journal of Pediatrics and the American Journal of Diseases of Children and the Journal of the American Medical Association. The American Medical Directory indicates diplomates of this and other boards by means of abbreviations and symbols (A.B.1) appearing in the biographic records. This directory, however, does not give such special recognition to diplomates who fail to maintain membership in the American Medical Association, the Canadian Medical Association, or other medical societies recognized for this purpose.

This board, in cooperation with the Council on Medical Education and Hospitals of the American Medical Association, is conducting a survey of institutions providing acceptable residencies and internships in pediatrics.

APPLICANTS FOR CERTIFICATES

Requirements for Applicants. All candidates for examination for certification must meet the following requirements:

1. Graduate from a Class A medical school.
2. One year's intern service in a recognized hospital.
3. Two years service in an approved pediatric center.

On May 1, 1946, it was ruled that at least one year of the two years service in the pediatric center must be in a full time pediatric internship or residency in a recognized institution. Because of the shortage of residencies, the board at this time, voted that temporarily the second year of required residency training might be met in various ways.

(*a*) A full time academic postgraduate course of nine months in an approved pediatric center is credited for one year's work.

(*b*) Shorter postgraduate courses of three to four months duration must add up to a full time year.

(*c*) A maximum of three months credit each is allowed for full time residency type training in allied pediatric subjects, such as pediatric allergy, pediatric psychiatry, pediatric pathology, pediatric cardiology.

(*d*) A maximum of six months credit is allowed for residency training in an approved contagious disease hospital.

4. An additional term of two years of specialized study and/or practice. Credit of one year toward this requirement is allowed for military service.

5. Preceptorships are not accepted for credit toward the residency requirement, but are accepted toward the practice requirement.

The board defines service in a pediatric center as full time devoted to rounded experience in an approved hospital which includes ward and outpatient service and both therapeutic and preventive pediatrics. It is expected also, that the service will include adequate graduate training in the basic medical sciences, as well as in the clinical laboratory and public health aspects of the specialty. The time served in pediatric centers need not be continuous or spent in the same institution.

The application fee is $125.00 and must be remitted with the application. Refund will be made only if the applicant is refused an examination. Applicants who failed in an examination may apply for a second examination after two years have elapsed and the candidates have presented evidence of continued study and activity in pediatrics. The fee for a second examination is $75.00.

Application must be made on special blanks which may be secured from the secretary. These must be sent in to the secretary at least four months, and preferably six months, before the date on which the candidate expects to be examined.

Letters from two competent pediatricians recommending each applicant must be sent to the secretary of the board. These letters should not accompany the application, but should be sent directly to the secretary. No member of the board, or official examiner, may recommend any applicant.

A list of papers or books published must be sent in with the application blank.

EXAMINATIONS

Examinations will be held at or near the time and place of meetings of the American Academy of Pediatrics, or at other times and places at the discretion of the board, depending on the number of applicants from any region of the country. It is proposed to arrange examinations in different cities so that as little financial burden as possible will be placed on the applicants in meeting the examiners.

The purpose of these examinations is to determine the applicant's competency to practice pediatrics. This board feels that the best impression of an applicant's ability can be obtained by oral examination although written ones may be submitted at times. However, at the present time this board is also giving a written examination at least six weeks preceding the oral examination. The written examination is given locally under a monitor. It is not proposed at the present time to require the applicant to send in case reports. The board feels that growth and development are fundamental parts of pediatric training.

Communications should be addressed to the secretary.

INFORMATION ON CERTIFICATION IN ALLERGY

by

The American Board of Pediatrics, Inc.

The American Board of Pediatrics, Inc., has taken final action, establishing certification in allergy as a subspecialty of pediatrics.

Certification in pediatrics by the American Board of Pediatrics is a prerequisite for such certification in allergy. Those who are already diplomates of the pediatric board and who wish to be certified in allergy must make formal application to the secretary of the American Board of Pediatrics. Those who are not yet certified in pediatrics and who desire certification in allergy as well should indicate this in their application to the board of pediatrics as examination in both subjects may be held at the same time.

The application fee for certification in allergy will be $25.00 in addition to the application fee for pediatric certification.

An Advisory Committee of Allergy has been appointed to act with the Board of Pediatrics in all matters pertaining to the selection and examination of applicants for subspecialty certification. This committee is identical with the Advisory Committee on Allergy of the American Board of Internal Medicine. The present members of this committee are:

Harry L. Alexander, M.D.
Robert A. Cooke, M.D. (Chairman), 60 E. 58th Street, New York City.
Leslie N. Gay, M.D.
Harry L. Huber, M.D.
Francis M. Rackemann, M.D.
Oscar M. Schloss (Pediatric Representative), 125 E. 72nd Street, New York City.

The Advisory Committee on Allergy has outlined the requirements for applicants who desire examination in the subspecialty of allergy as follows:

1. Two years, full time, in a satisfactory allergy clinic and its hospital (including training, in both allergy and pediatrics), or
2. One year, full time, in the allergy clinic and its hospital, and two additional years of full attendance on such an allergy clinic and its activities, or
3. Five years, full attendance, on such an allergy clinic and its activities, or
4. Special training under qualified preceptors, solely or in combination with aforementioned types of training, and such other training as might be felt adequate to prepare an individual for the practice of allergy.

It is further the opinion of the committee that clinics for such training should fulfill the following qualifications:

1. They should be in hospitals that have been accepted by the Council on Medical Education and Hospitals of the American Medical Association and by the American Board of Pediatrics for training and certification in pediatrics and for residencies in pediatrics or medicine.
2. The director of the Allergy Clinic shall be a diplomate certified in allergy by the American Board of Internal Medicine, or the American Board of Pediatrics.

When accepted the diplomate will receive from the American Board of Pediatrics a certificate in allergy and will be listed as a specialist in allergy.

Prospective applicants for certification in the subspecialty of allergy may apply to the secretary of the American Board of Pediatrics.

AMERICAN BOARD OF PLASTIC SURGERY

JEROME P. WEBSTER, Chairman, New York.
GORDON B. NEW, Vice Chairman, Rochester, Minn.
LOUIS T. BYARS, Secretary-Treasurer, 508 N. Grand Blvd., St. Louis 8.
GUSTAVE AUFRICHT, New York.
BRADFORD CANNON, Boston.
WILLIAM G. HAMM, Atlanta, Ga.
HAROLD L. D. KIRKHAM, Houston, Texas.
WILLIAM S. KISKADDEN, Los Angeles.
SUMNER L. KOCH, Chicago.
JAMES T. MILLS, Dallas, Texas.
GEORGE WARREN PIERCE, San Francisco.
FULTON RISDON, Toronto, Canada.
WALLACE H. STEFFENSEN, Grand Rapids, Mich.

ORGANIZATION

The American Board of Plastic Surgery, tentatively organized in June, 1937, by representatives of widely distributed groups interested in this special type of surgery, received recognition as a subsidiary of the American Board of Surgery in May 1938, and was given the status of a major board in May 1941, by action of the Advisory Board for Medical Specialties as approved by the Council on Medical Education and Hospitals of the American Medical Association, which has named certain specialty fields as being suitable to be represented by such boards. It is composed of representatives from the American Association of Plastic Surgeons, the American Society of Plastic and Reconstructive Surgery, the Surgical Section of the American Medical Association, the American Surgical Association, the Southern Surgical Association, and the American College of Surgeons. These boards have the twofold purpose of certifying those found to be qualified after meeting reasonable requirements, and of improving existing opportunities for the training of specialists within the field concerned. This is to be done for the protection of the public and the good of the specialty.

PURPOSES OF THE BOARD

1. To establish and raise standards of fitness to practice plastic surgery.
2. To arrange and conduct examinations to determine the qualifications of surgeons who request a certificate of their ability in the field of plastic surgery, to establish requirements for the qualification of applicants, and to confer certificates on those who meet the requirements of the board.
3. To improve and widen the existing opportunities for the training of the plastic surgeon.
4. To study and evaluate local and foreign teaching centers and opportunities for experience in and the study of plastic surgery.
5. To set up standards whereby the public can be assured that the diplomate has met a high standard of qualifications for the specialty of plastic surgery.
6. The board is in no sense an educational institution and the certificates of the board are not to be considered degrees. Therefore the certificate does not confer on any person legal qualifications, privileges, or license to practice medicine or the specialty of plastic surgery. The board does not purport in any way to interfere with or limit the professional activities of any licensed physician. Its chief aim, as stated above, is to try to influence for the general good the specialty of plastic surgery and to isssue certificates to those voluntarily complying with the requirements of the board. There is no desire on the part of the board to interfere with any practitioners of medicine in any of their regular or legitimate activities. The fundamental purpose is to ensure to the public, both lay and medical, and for its protection, that physicians claiming to be specialists with presumably special proficiency in one or another branch of medicine, actually possess the qualifications they claim. This presupposes special training and demonstrable capability along certain lines of work. Suitable evidence of this is the ability of an individual to satisfy an examining board about his training and then to pass the examination for certification.

GENERAL ELIGIBILITY REQUIREMENTS

1. Satisfactory moral and ethical standing in the profession.
2. Membership in the American Medical Association or, by courtesy, membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association.
3. Those whose activities are limited to the practice of plastic surgery.

The secretary cannot make eligibility rulings. These are made only by the Committee on Credentials and Requirements after reviewing the candidate's formal application.

PROFESSIONAL REQUIREMENTS FOR QUALIFICATION

1. Graduation from a medical school recognized by the Council on Medical Education and Hospitals of the American Medical Association.
2. Completion of an internship of not less than one year in a hospital approved by the same Council, or what would constitute in the opinion of the board the equivalent of such training.
3. Graduate study in surgery for a period of not less than two years beyond the intern year, to be taken in a recognized graduate school or hospital.
4. Graduate study in plastic surgery for an additional period of not less than two years, also to be taken in a recognized graduate school or hospital, or under auspices satisfactory to this board. This period of training shall cover the technical and clinical phases of plastic surgery, and the basic sciences of anatomy, physiology, pathology, bacteriology, and biochemistry, as they are related to plastic surgery.
5. An additional period of two years of surgical practice, a fair percentage of which shall be in plastic surgery.

The above training may be taken in a recognized graduate school of medicine, or as resident in surgery in an acceptable

hospital, or under a sponsorship accredited by the American Board of Plastic Surgery for such training. By the latter statement it is meant that one may secure the necessary and specified training as an assistant to an accredited surgeon, provided suitable facilities for the education of the candidate are offered.

The period of special training should emphasize the relation of the basic sciences, anatomy, pathology, physiology, biochemistry and bacteriology, to the application of surgical principles which are fundamental in all branches of surgery.

In addition, the candidate before becoming eligible for consideration by any surgical specialty board must understand and be trained in the following subjects; viz.: the care of emergencies, shock, hemorrhage, blood replacement, electrolyte and fluid balance, protein and nitrogen balance, choice of anesthetics, chemotherapy, acidosis and alkalosis, narcotics and hypnotics, wound healing, etc.

TRAINING FACILITIES

Neither the board nor its individual members can be responsible for the placing of applicants for training, but it should be noted by the applicants that accredited work will be considered that which is done on a plastic surgery service approved by the board. A list of approved plastic surgical services is available in the secretary's office.

Because of the vagaries of training, such as changes from one specialty to another, interims of military duty and other service to the country, the aptitude and skill of candidates, the board may, at its discretion, review and make recommendations for or against certification of certain applicants outside of the listed qualifications and requirements.

The board reserves the privilege of requesting lists of operations done solely by the candidate for one or two years, or of requesting special and extra examinations, written, oral or practical, and of requesting any specific data concerning the candidate that may be deemed advisable before making final decisions for certification.

Furthermore, because of its endeavor to arrive at the most equable policy for all concerned, the board reserves the privilege of changing requirements and qualifications without necessarily issuing a new booklet of information.

CASE REPORTS

Candidates whose general eligibility and professional requirements are found satisfactory shall be required to submit twenty-five diversified case reports, together with photographs, to the secretary of the board. This group of case reports must include a variety of material from the entire body rather than a number of cases of one type, and should carry the candidate's personal deductions, conclusions and comments and should be sufficiently detailed to show if the conclusions drawn indicate a grasp of the subject and if the results justify the procedure.

Each case report should be typewritten on paper approximately 8½ x 11 inches, separately numbered and paged, with the candidate's name on each page. Each report should be individually assembled and held by removable fasteners and should have a cover sheet with the candidate's name, the number of the case, hospital number, diagnosis and a brief summary of the case (not over 100 lines). The case reports, photographs and other data are to be filed with the permanent records of the board. Cases should be chosen from the private practice of the candidate or from the hospital or clinic services; in the latter case, their identification numbers are required. The initials, color, age and occupation of each patient should be stated, as should the name of the hospital where treated and dates of admission, operation and discharge. The important details of family history, if relevant, and of the previous history should be given. The history of the condition for which the candidate was consulted should be stated clearly and concisely, indicating previous treatment, if any, and the mental, social or economic factors involved. The physical examination of the patient with special reference to the existing deformities should be carefully described. All laboratory and other special examinations, such as roentgenograms which were made, should be reported, with a statement of what was determined by them. The indications for operation and for the type of operation employed should be given. The preliminary treatment and the type of anesthesia used should be stated. A full description of the operative technic with methods of hemostasis, suture and drainage, if any, and the name of the assistant should be given. The early and late postoperative course and results should be described.

Photographs of conditions and drawings of operative technic, illustrative of each case, should be included and securely attached to each case report, with name of the candidate and the number of the case indicated. All photographs should be made by a sharp focus lens from untouched negatives with identical lighting conditions, exposure and developing, and should show conditions before and after operations with clear detail.

If the case reports and lists of operations are approved, the candidate will receive subsequent information regarding taking the examinations.

EXAMINATIONS

The qualifying examinations will be divided into Part I—Written, and Part II—Oral and Practical.

Part I shall consist of a written examination prepared by the Examination Committee on questions which concern the theory and practice of surgery. The examination shall also include questions on applied anatomy, applied physiology, pathology, bacteriology, clinical laboratory methods, local and general anesthesia, shock, hemorrhage, the handling of tissues, wound healing, and surgical accidents.

Or, when finally adopted by the combined surgical specialty boards, the single, written basic examination (Part I) in the fundamentals of surgery will be the requirement, and will be practically as follows: That after not less than three years of acceptable basic training in surgery a candidate may be given an examination in the fundamentals of surgery, required of all who enter any surgical field, covering the following subjects: current application to surgery of applied biochemistry, pathology, anatomy, physiology, bacteriology and pharmacology, including the principles governing fluid and electrolyte balance, shock, hemorrhage, death of tissue, blood coagulation, inflammation, infections, modern drug therapy, anesthesia, wound healing, thrombosis, embolism, respiration and oxygen requirements, tumor growth, and other related subjects.

Part II shall, as far as possible, be of a practical nature, and shall be conducted by no fewer than two competent examiners selected by the board.

The clinical examination shall include any or all of the following:

1. The exhibition of patients who have undergone or who are undergoing treatment by the candidate.
2. Examination, diagnosis, and presentation of a plan of correction by the candidate of cases provided by the examiners.
3. Oral examination of the candidate and observations made in the operating room, treatment rooms, and wards.
4. A written examination concerning plastic surgery may be given to correlate the clinical evaluation.

In order to be eligible for Part II of the examination, a candidate shall have successfully passed Part I of the board or the basic examination of the combined surgical boards, or have been certified by the American Board of Surgery and have had two to four years extra accredited training in plastic surgery.

REEXAMINATIONS

Candidates may be reexamined provided that one year shall elapse between examinations, except in such case as the board may, for good and sufficient reason, deny a candidate the privilege of reexamination. Candidates shall be required to pay a fee of $50 for reexamination.

FEES

The fee for the examination and the certificate of the American Board of Plastic Surgery is $100. Of this sum, $25 must accompany the application. The remaining $75 should be paid when the candidate is notified of acceptance for examination. There shall be no refunds.

This fee may be increased at the discretion of the board.

This board is a non-profit organization. The fees of candidates are used solely for defraying the actual expenses of the board.

Because of the limited number of surgeons certified by this board it is necessary to request $10 annually from diplomates, after the first year, to defray expenses of the board.

CERTIFICATION

A certificate, bearing the seal of the board and the signatures of its officers will be issued to each successful candidate attesting his qualification in plastic surgery.

It is the board's prerogative to determine the fitness professionally and ethically of any candidate for its certificate.

The action or decision of the American Board of Plastic Surgery regarding the certification of any candidate shall be final.

REVOCATION OF CERTIFICATE

The American Board of Plastic Surgery shall have the sole power, jurisdiction, and right to determine and decide whether or not the evidence or information placed before it is sufficient to constitute grounds for revocation of any certificate issued by the board, and the decision of the board in the premises shall be final.

Address all communications to the secretary-treasurer.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY

WALTER FREEMAN, President, Washington, D. C.
A. R. VONDERAHE, Vice President, Cincinnati.
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HISTORY AND STATEMENT OF PRINCIPLES

The American Board of Psychiatry and Neurology was founded in 1934 following conferences of committees appointed by the American Psychiatric Association, the American Neurological Association, and the Section on Nervous and Mental Diseases of the American Medical Association. This action was taken in response to a widespread desire among specialists in psychiatry and neurology for some means of distinguishing the fully qualified specialist from the would-be specialist of inferior training and inadequate experience. That this desire is by no means limited to those who practice psychiatry and neurology is indicated by the formation of corresponding boards covering internal medicine, surgery, and the major specialties. The success of this method of distinguishing the specialists is indicated by the increasing number of candidates taking the examinations, and by the listings accorded in the American Medical Directory to those specialists holding certificates of the various boards.

CONSTITUTION AND ACTIVITIES

The American Board of Psychiatry and Neurology is composed of twelve members, four each from the American Neurological Association and from the American Psychiatric Association and two neurologists and two psychiatrists elected by the Section on Nervous and Mental Diseases of the American Medical Association. Annual elections to fill the places of members whose terms have expired take place in each of the nomination associations with the understanding that neurology and psychiatry are always equally represented on the board. The board holds annual meetings in December of each year for the transaction of whatever business may come before it and also holds special meetings for the purpose of examining candidates.

CHIEF FUNCTIONS

(a) To determine the competence of specialists in psychiatry and neurology.

(b) To arrange, control and conduct investigations and examinations to test the qualifications of voluntary candidates for certificates issued by the board.

(c) To grant and issue certificates or other recognition of special knowledge in the field of psychiatry and neurology to successful voluntary applicants therefor.

(d) To serve the public, physicians, hospitals and medical schools by preparing lists of practitioners who shall have been certified by the board.

(e) To consider and advise as to any course of study and technical training, and to diffuse any information calculated to promote and ensure the fitness of persons desirous of qualifying for a certificate of qualifications to be issued thereby.

POLICIES AND PROCEDURES REGARDING APPLICATION, TRAINING, EXAMINATION AND CERTIFICATION

In carrying out its specified functions, the American Board of Psychiatry and Neurology has formulated By-Laws to guide its activities and to indicate to applicants and other interested persons its policies regarding training requirements, examinations, fees, etc. These By-Laws have been amended from time to time. The statements given below embody the most recent amendments and represent the current policy of the board (1947). If, however, a candidate has evidence of equivalent qualifications, training and experience, but not in the pattern here formulated, this evidence with appropriate documentary support may be included in his application, for evaluation and possible approval by the board.

Application for Certificates.—An application, in order to be considered at any meeting of the board, must be in the hands of the secretary of the board *not less than 90 days before the date of such meeting.* A proper application form may be obtained from the secretary. Application may be made for certification in psychiatry or in neurology or in both fields. Applications will be formally considered only when made on the official application blank in such form as may be adopted from time to time by the board and when accompanied by an application fee in such amount as may be fixed by the board.

The secretary of the board on receipt of an application shall forthwith make inquiries from those to whom the candidate refers and from such other persons as the secretary may deem desirable and shall verify the candidate's record from the biographical records of the American Medical Association, after which he shall forward the application to the Committee on Credentials. This committee shall consider the application and other information available and notify the secretary whether the application is accepted. The certification of a candidate in either psychiatry or neurology, or both, shall be approved by a majority of the members of the entire board at any meeting held for such certification.

Form of Certificates.—There shall be separate certification in psychiatry and in neurology and two certifications or a combined certification for those qualified in both fields. The certifications shall be in such form as approved by the Board of Directors.

General Requirements for Applicants.—Each applicant for a certificate must establish that—

(a) He is a physician duly licensed by law to practice medicine.

(b) He is of high ethical and professional standing.

(c) He is now a member of the American Medical Association, or a member of such medical societies as are recognized for purposes of certification by the Council on Medical Education and Hospitals of the American Medical Association. Exceptions to the foregoing may be made at the discretion of the board for good and sufficient reasons.

(d) He has received adequate training in psychiatry or neurology, or both, as a specialty.

CLASSES OF APPLICANTS

Class A—Candidates graduated from medical school before the foundation of this board (1934) will not be held to the strict interpretation of the published requirements in formal graduate training. Under such circumstances the board will consider the training and experience of the applicant and decide whether or not he will be admitted to the examination.

Class B—Candidates graduated from a medical school after 1934 shall fulfil the following special requirements.

PROFESSIONAL EDUCATION

1. Graduation from a medical school in the United States or Canada approved by the Council on Medical Education and Hospitals of the American Medical Association. In case of an applicant whose training has been received outside the United States and Canada, his credentials must be satisfactory to the aforementioned Council and the Advisory Board for medical specialties.

2. Completion of a year's internship approved by the same Council in general medicine, general surgery, pediatrics or a rotating internship.

3. The nine month wartime internships, assistant residencies, or residencies will be accepted as an equivalent of one year.

SPECIAL TRAINING

(These requirements will be rigidly enforced after Jan. 1, 1948.)

Admission to the examination for certification in psychiatry or neurology requires a total experience of not less than five years.

There shall be a period of three years of full time study in institutions recognized by the Council on Medical Education and Hospitals of the American Medical Association, and approved by this board as competent to provide training in psychiatry or neurology. A candidate may submit to the board evidence of special training in psychiatry or neurology not covered in these specifications for its evaluation and approval.

In addition to three years of training under supervision, each candidate should have two years of clinical practice with major responsibility for the care of patients.

This training for psychiatrists should include clinical work with psychoneurotic and psychotic patients, combined with the study of the basic psychiatric sciences, medical and social psychology, psychopathology, psychotherapy, and physiological therapies, including a basic knowledge of the form, function and pertinent pathology of the nervous system. This training should be supervised and guided by teachers competent to develop skill and understanding in the utilization of such basic

knowledge in dealing with patients. Mere factual knowledge is not sufficient. This training period should include instruction in the psychiatric aspects of general medical and surgical conditions and the behavior disorders of children and adolescents sufficient to develop practical ability to direct the treatment of such conditions. It should also include collaborative work with social workers, clinical psychologists, courts, and other social agencies. The training program of the candidate for certification in psychiatry should include sufficient training in neurology to recognize and to evaluate the evidences of organic neurological disease.

The training for neurologists should be based on clinical work with adults and children with neurological disorders, including the neurological complications of medical and surgical conditions. This shall be combined with study of the basic neurological sciences, neuroanatomy, neurophysiology, neuropathology, and neuroentgenology. This training should be supervised and guided by teachers competent to develop skill and understanding in the utilization of such basic knowledge in dealing with patients. Mere factual knowledge is not sufficient. This training should include sufficient psychiatry to enable the candidate to recognize and evaluate the common psychiatric reactions.

Candidates seeking certification in both neurology and psychiatry or supplementary certification in one after being certified in the other must submit evidence satisfactory to the board of additional two years of full-time basic training in the supplementary specialty.

Thus, no candidate is eligible for examination by the board until he has completed at least five years of special training and experience in neurology or psychiatry for a single certificate, or at least seven years of training and experience for certification in both neurology and psychiatry.

TRAINING IN THE ARMED FORCES

Credit will be granted for one year of wartime service in the Army, Navy, Public Health Service and Veterans Administration. Further credit for basic training will be granted only if the training has been received in an institution recognized by the Council on Medical Education of the American Medical Association and approved by this board. Time beyond one year spent in the above government agencies may be credited to experience, providing the candidate has been regularly assigned to a service in neurology or psychiatry.

EXAMINATIONS

Date and places of examinations are set by the board at its discretion and are announced in *The Journal of the American Medical Association*, in the *American Journal of Psychiatry*, in the *Journal of Nervous and Mental Diseases*, and in the *Archives of Neurology and Psychiatry*.

The examinations are designed to test the competence of the candidates. There will be separate examinations for certification in psychiatry and in neurology. The board requires some proficiency in neurology on the part of those it certifies in psychiatry and vice versa, but examines the candidate in accordance with the certificate he seeks. The examination will be of such type that no adequately trained individual will fail, yet they will be sufficiently searching so that the specialist in fact may be separated from the specialist in name. The practical examination will include the examination of patients under the supervision of the examiner. The manner of examining patients, and the reasoning and deductions therefrom, will constitute an important part of the examination. Oral and practical examinations will be given in the basic sciences with special regard to their clinical implications.

PAYMENT OF FEES

The candidate upon filing his application shall accompany it with an application fee of $25.00, which is not returnable. When notified by the secretary that he is eligible for examination, he shall send to the secretary an examination fee of $25.00 for examination in either psychiatry or neurology. There will be separate examinations for certification in psychiatry and in neurology. Should the applicant desire examination in both at one meeting of the board, he shall send an examination fee of $50.00. A candidate who has failed in one examination is eligible for reexamination within three years on payment of a reexamination fee of $25.00. A candidate who has been conditioned in one examination is eligible for reexamination within three years on payment of a reexamination fee of $10.00. A candidate who has been certified in either psychiatry or neurology, and who has been admitted to the supplementary examination for the other certificate, shall pay an additional examination fee of $25.00 The candidate who has failed twice, or one who does not apply for reexamination within three years, will be considered a new applicant.

PLEDGE

Each candidate is required to sign the following pledge:

"I hereby make application to the American Board of Psychiatry and Neurology, Incorporated, for the issuance to me of a certificate of qualification as a specialist in (a) Psychiatry; (b) Neurology; (c) Psychiatry and Neurology (check the one desired) and for examination relative thereto, all in accordance with and subject to its rules and regulations. On the issuance of the certificate I agree to and do become bound by the By-Laws of the American Board of Psychiatry and Neurology, Inc., so far as applicable.

"I agree to disqualification from examination or from the issuance of a Certificate of Qualification or to forfeiture and redelivery of such Certificate of Qualification in the event that any of the rules governing the examination are violated by me or for any one of the reasons set forth in the By-Laws. I agree to hold said American Board of Psychiatry and Neurology, Inc., its members, examiners, officers and agents, free from any damage or claim for damage or complaint by reason of any action they, or any of them, may take in connection with the application, such examination, the grade or grades given with respect to any examination, and/or the failure of said Corporation to issue to me such a Certificate of Qualification."

RULES AND REGULATIONS

The Board of Directors, from time to time, by resolution adopted by the affirmative vote of a majority then in office, may adopt, amend or repeal rules and regulations respecting requirements of applicants, the nature and extent of examinations and investigations and issuance of such certificates.

REVOCATION OF CERTIFICATES

All certificates issued for the Corporation shall be issued subject to the provisions of the Certificate of Incorporation and of the By-Laws of the American Board of Psychiatry and Neurology, Inc. Each such certificate shall be subject to revocation in the event that:

(a) The issuance of such certificate or its receipt by the physician shall have been contrary to or in violation of any of the provisions of the Corporation's Certificate of Incorporation or By-Laws; or

(b) The physician so certified shall not have been eligible in fact to receive such certificate, irrespective of whether or not the facts constituting him so ineligible were known to any or all of the directors of the corporation or could have been ascertained by any or all of the directors of the corporation at the time of the issuance of such certificate; or

(c) The physician so certified shall have made any deliberate misstatement of fact in his application for such certificate or in any other statement or representation to the corporation, its directors, representatives or agents, or

(d) The physician so certified shall have been convicted by a court of competent jurisdiction of a felony or of any misdemeanor involving, in the opinion of the Board of Directors of the corporation, moral turpitude in connection with his practice of medicine; or

(e) The physician so certified shall have had his license to practice medicine revoked or shall have been disciplined or censored as a physician by any court or other body having proper jurisdiction and authority.

AMERICAN BOARD OF RADIOLOGY

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HISTORY AND AUTHORITY FOR ORGANIZATION

The medical profession has long felt that there should be a standard of minimal requirements for the practice of any spe-

cialty in medicine in order to protect the public, the profession in general, and the specialists themselves. Some of the states have attempted by statute to prescribe such requirements in certain branches. Unless a better method of regulation were found, the other states would be likely to enact similar laws. The result would be forty-eight different standards for each of the many medical specialties. Obviously, a more practicable solution would be for each special group to put its own house in order and place its mark of approval on those qualified to practice as specialists in that particular field. Accordingly, in 1932, five nation-wide radiologic organizations, the Section on Radiology of the American Medical Association, the American Roentgen Ray Society, the Radiological Society of North America, the American College of Radiology, and the American Radium Society, each appointed a committee of three members to confer and investigate the feasibility of establishing a qualifying board. The following men were appointed by these five organizations: Drs. G. W. Holmes, J. W. Pierson, E. L. Jenkinson, W. E. Chamberlain, E. C. Ernst, W. F. Manges, L. R. Sante, L. C. Kinney, A. C. Christie, Albert Soiland, W. W. Wasson, Henry Schmitz, Lester Hollander, Rollin H. Stevens and B. R. Kirklin.

This combined committee met at Milwaukee in 1933, during the meeting of the American Medical Association, agreed unanimously that such a board should be established and so reported to the respective organizations. Each of the organizations approved the report, appointed three representatives, and empowered them to proceed to the formation of a national radiologic board. The members of the board thus chosen were: Drs. W. F. Manges, L. R. Sante and B. R. Kirklin, representing the American Roentgen Ray Society; Drs. A. C. Christie, E. C. Ernst and E. L. Jenkinson (succeeding Dr. Byron H. Jackson, originally appointed) representing the American College of Radiology; Drs. R. H. Stevens, Henry Schmitz and H. K. Pancoast, representing the American Radium Society; Drs. L. J. Menville, M. C. Sosman and Albert Soiland, representing the Radiological Society of North America, and Drs. L. C. Kinney, J. W. Pierson and G. W. Holmes, representing the Section on Radiology of the American Medical Association.

The board was incorporated, organized and held its first meeting in Washington, D. C., in May 1934. At that time the by-laws were adopted and provision was made by resolution for its proper function. The officers of the board elected at this meeting were:

Dr. H. K. Pancoast, President.
Dr. A. C. Christie, Vice President.
Dr. B. R. Kirklin, Secretary-Treasurer.

This move put into action the determined effort on the part of these five national organizations to improve the standards of the practice of radiology. It expects to accomplish this by various activities, such as the investigation and encouragement of facilities for graduate extension study and active clinical assistantships for men desiring to specialize in radiology. It will endeavor by regular examinations to determine the competence of specialists in radiology who apply for the certificate.

During 1934 the American Board of Radiology was accepted for membership in the Advisory Board for Medical Specialties and was also approved by the Council on Medical Education and Hospitals of the American Medical Association. The list of Diplomates of the board replaced Council's list of approved radiologists, and the latter list was discontinued.

PURPOSES

First: To encourage the study and promote and regulate the practice of radiology.

Second: To elevate the standards and advance the cause of radiology by encouraging its study and improving its practice.

Third: To determine the competence of specialists in radiology; to arrange, control and conduct investigations and examinations; and to test the qualifications of voluntary candidates for certificates to be issued by the board.

Fourth: To serve the public, physicians, hospitals and medical schools by preparing lists of practitioners who shall have been certified by the board.

VALUE OF CERTIFICATE

The national radiologic organizations which have participated in the formation of the board and are sponsoring its activities, as well as other organizations, attach considerable importance to its certificate. It is expected that both the medical and the lay public, including hospital directors, will soon come to utilize the certificate from this board as a means of discriminating between those who are well grounded as specialists in radiology and those who are not.

To this end lists of those holding certificates from this board will be published and issued from time to time by the board. Similar lists will be published by the *American Journal of Roentgenology and Radium Therapy, Radiology* and *The Journal of the American Medical Association.* The Directory of the American Medical Association will indicate by a numerical symbol in the biographic data of those whose names are eligible to appear on these lists that they are diplomates of this board.

For emphasis it is repeated that the board does not intend in any way to interfere with or limit the professional activities of any duly licensed physician, but it does aim toward standardized qualifications for those who claim to be specialists in radiology.

CERTIFICATES

A certificate will be issued to each candidate who meets the requirements of the board, to the effect that the holder of the certificate has had adequate training in radiology and has successfully fulfilled the requirements of the board.

A certificate granted by this board does not of itself confer, or purport to confer, any degree, or legal qualifications, privileges, or license to practice radiology. Certificates of the board shall be issued upon one of two forms:

1. A certificate to the effect that the applicant has been found qualified to practice radiology in all its branches.

2. A certificate to the effect that the applicant has been found qualified to practice radiology in one or more of the following special fields: (a) roentgenology; (b) diagnostic roentgenology; (c) therapeutic radiology.

DEFINITIONS

For the purposes of this board, the following definitions are adopted:

1. Radiology is that branch of medicine which deals with the diagnostic and therapeutic application of radiant energy including roentgen rays and radium.

2. Roentgenology is that branch of radiology which deals with diagnostic and therapeutic application of roentgen rays.

3. Diagnostic roentgenology is that branch of radiology which deals with the diagnostic application of roentgen rays.

4. Therapeutic radiology is that branch of radiology which deals with the therapeutic application of roentgen rays and radium.

GENERAL QUALIFICATIONS

Each applicant for admission to the examination shall be required to present evidence that he has met the following standards:

GENERAL REQUIREMENTS

1. Satisfactory moral and ethical standing in the profession.

2. A license to practice medicine in the state or county in which he resides.

3. Membership in the American Medical Association, or membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association. Except as herein provided, membership in other societies shall not be required.

4. That the applicant holds himself out to be a specialist in radiology or one of its branches as defined under "Definitions," and that he devotes his time primarily and principally (at least 75 per cent) to the practice of radiology or one of its branches.

5. That he is a citizen of the United States or Canada. Candidates from other countries must be permanent residents of that country and native citizens thereof.

GENERAL PROFESSIONAL EDUCATION

1. Graduation from a medical school recognized by the Council on Medical Education and Hospitals of the American Medical Association. If the applicant is a resident of the United States or one of its possessions and is a graduate of a medical school outside the United States or Canada, he must have a certificate of The National Board of Medical Examiners.

2. Completion of an internship of not less than one year in a hospital approved by the same Council.

SPECIAL TRAINING

(Applicable to candidates who begin their training on or after January 1, 1942, and to all candidates examined after January 1, 1945.)

1. After completion of the internship there shall be a period of special training in radiology of not less than three years in clinics, hospitals or dispensaries recognized and approved by The American Board of Radiology and the Council on Medical Education and Hospitals of the American Medical Association as

competent to provide a satisfactory training in radiology. This period of specialized training shall include:

(a) Graduate training in pathology, radiation physics and radiobiology.

A period of six months full-time training in pathologic anatomy is recommended but where this is not possible to arrange the student, during his three-year training period may, by attending pathologic conferences, postmortem examinations and studying removed tissues, receive adequate training in pathology. It is recommended that radiation physics be taught by a combination of didactic lectures, practical examples, and direct clinical demonstrations.

(b) An active experience (residency) of not less than twenty-four months in an institution, the radiologic department of which is recognized and approved by The American Board of Radiology and the Council on Medical Education and Hospitals of the American Medical Association as capable of providing satisfactory training.

(c) Examination in the basic sciences of radiology as well as the clinical aspects thereof.

These examinations should be given by the student's instructors in order to allow those responsible for his training to certify to the board that he is adequately prepared.

In the current emergency the board will allow one year of military service spent in a radiology department in the United States Army, Navy or Marine Corps to be applied toward the satisfaction of one year of graduate training.

APPLICATIONS

The board desires to appraise the candidate's educational opportunities (premedical, medical and radiologic), the ability of his instructors, his hospital and teaching positions, his original investigations, his contributions to radiologc literature, his membership in medical societies, and his local and general reputaton.

For this purpose, application must be made on a special blank which may be obtained from the secretary. No application will be considered unless made on the regular application blank. This application shall be forwarded with the required data, two unmounted photographs, and the fee of $50, at least two months before the date of the examination.

FEE

A fee of $50 must accompany each application blank. This fee will not be returned and no application will be considered until the fee is received. This fee has been carefully computed and is used entirely for administrative purposes. Members of the board and special examiners do not receive any compensation except for actual expenses connected with holding the examinations. As the number of candidates decreases, it may become necessary to raise the fee.

Checks should be made payable to the American Board of Radiology.

EXAMINATIONS

Each year the board will hold an examination in conjunction with the annual meeting of the American Medical Association, and, when sufficient applications are on file, a second examination will be held in conjunction with the annual meeting of the American Roentgen Ray Society and/or the Radiological Society of North America.

For the present, examinations consist of practical and oral examinations, although written examinations may be added later. The examinations are designed to test the candidate's fitness to practice radiology or one of its branches as a specialty. The board will endeavor to adapt this examination to the candidate's experience and years of practice. It will try especially to ascertain the breadth of his clinical experience, his knowledge of the basic sciences of radiology, and likewise his knowledge of the recent literature on radiology, and his general qualifications as a specialist in this branch of medicine.

The examination consists of tests in film interpretation and an oral examination in pathology, physiology, radiophysics and radiobiology, as well as the clinical applications of roentgen rays and radium. The applicant is also examined in "professional adaptability," in an attempt to ascertain his attitude toward his fellow practitioners and his patients.

Whenever an applicant fails to pass the examination, the board, if requested, will make suggestions as to suitable courses of instruction for the purpose of overcoming his deficiencies.

REEXAMINATIONS

If the candidate fails in the first examination he will be admitted to a second examination after one year has elapsed but not more than three years. He must give sixty days' notice of his intention to appear for reexamination, and pay an additional fee of $25. If a candidate who has failed does not appear for reexamination before the expiration of three years, he will be required to make a new application and pay an additional fee of $50.

A candidate having failed twice may, after one year has elapsed, file a new application which must be accompanied by the fee of $50.

FINAL ACTION OF THE BOARD

The final action of the board is based on the applicant's professional record, training, and attainments in the field of radiology, as well as on the results of his examination. Any radiologist who is practicing radiology honorably and efficiently should have no difficulty in obtaining a certificate. This board has been organized, not to prevent qualified radiologists from obtaining certificates, but to assist them in becoming recognized in their communities as men competent to practice in the special field of radiology.

REVOCATION OF CERTIFICATES

Certificates issued by this board are subject to the provisions of the Articles of Incorporation and the By-Laws. According to Article IX, Section 4, of the By-Laws "Any certificate issued by the Board of Trustees shall be subject to revocation in the event that:

(a) The issuance of such certificate or its receipt by the physician so certified shall have been contrary to or in violation of any provision of the Certificate of Incorporation of this the American Board of Radiology or of these By-Laws; or

(b) The physician or party so certified shall not have been eligible in fact to receive such certificate; or

(c) The physician or party so certified shall have made any misstatement of fact in his application or in any other communication to the board or its representatives; or

(d) The physician or party so certified shall have been convicted by a court of competent jurisdiction of a felony or of any misdemeanor involving, in the opinion of the Board of Trustees, moral turpitude; or

(e) If the physician or party so certified shall have had his license to practice medicine revoked or shall have been expelled from one of the societies or organizations which is represented by this corporation through eligibility of such society or organization to nominate and appoint members of this corporation."

All official correspondence should be addressed to the secretary.

AMERICAN BOARD OF SURGERY

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FREDERICK L. REICHERT, San Francisco.
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(The American Board of Surgery is preparing a new and revised edition of its Booklet of Information which will be available for distribution by the board after Sept. 1, 1947. The revision was not available for publication in this issue of THE JOURNAL. The American Board of Surgery, however, submitted the following statement for inclusion in this number.)

Candidates who have the following requirements will be eligible for consideration by the American Board of Surgery:

Group I: Four years of education in surgery in a graded residency in one or more institutions. (A graded residency includes a period of training in which the trainee has increasing responsibility for the care of patients with surgical conditions.) The training programs of hospitals must be approved by an appropriate committee of the board, in addition to the approval of the hospital for graduate training by the Council on Medical Education and Hospitals of the American Medical Association or the American College of Surgeons. One year of the four may be in a subspecialty of surgery, such as proctology, thoracic surgery, plastic surgery, cancer surgery, orthopedics, gynecology, or experimental surgery. If the second year of a two year internship is surgical and in a hospital approved

for graduate training, it will be acceptable on the above four years.

Group II: In lieu of the requirements for Group I, the board will continue to accept, for the present, three years of acceptable residency training, followed by two years of study or practice of surgery. The latter two years may be taken under one certified by the board and acceptable for this purpose to the board and carrying on his practice in hospitals fully approved as meeting the minimum hospital requirements of the American College of Surgeons.

In addition to the above groups, those candidates whose applications are now on file in the board's office and candidates with whom the board has had correspondence and whose training programs to this date have met the board's requirements, will be given consideration. After this date, no candidates will be accepted who do not meet the requirements as published in Groups I or II.

The new Booklet of Information of the American Board of Surgery will be ready for mailing about September 1. Requests for a copy of the booklet should be mailed to the board's office.

AMERICAN BOARD OF UROLOGY

GILBERT J. THOMAS, President, Minneapolis.
CLARENCE G. BANDLER, Vice-President, New York.
HARRY CULVER, Secretary-Treasurer, 210 Loring Medical Building, 1409 Willow St., Minneapolis 4.
GEORGE GILBERT SMITH, Brookline, Mass.
GEORGE F. CAHILL, New York.
E. GRANVILLE CRABTREE, Boston.
CHARLES C. HIGGINS, Cleveland.
A. I. DODSON, Richmond, Va.
GRAYSON CARROLL, St. Louis.

ORGANIZATION

The American Board of Urology was organized at Chicago, Ill., Sept. 24, 1934. The committee members present from the American Association of Genito-Urinary Surgeons were: Dr. William F. Braasch, Dr. Henry G. Bugbee, and Dr. Gilbert J. Thomas; those from the American Urological Association were Dr. Herman L. Kretschmer, Dr. Nathaniel P. Rathbun, and Dr. George Gilbert Smith; those from the Section on Urology of the American Medical Association were: Dr. Clarence G. Bandler, Dr. A. I. Falsom, and Dr. T. Leon Howard.

The officers of the board elected at this meeting were: Dr. Herman L. Kretschmer, President; Dr. Clarence G. Bandler, Vice-President; Dr. Gilbert J. Thomas, Secretary-Treasurer.

The board was incorporated May 6, 1935, and held its first legal meeting May 10, 1935.

PURPOSES

The first objective of the American Board of Urology, Inc., is to render better service to the public by insuring the competency of any physician or surgeon who is specializing, or who wishes to specialize, in the field of urology. The board will elevate the standards and advance the cause of urology. It will investigate the curricula of medical schools and will encourage adequate facilities for graduate instruction in urology.

FUNCTIONS

1. The board will arrange and conduct examinations testing the qualifications of volunteer candidates.
2. The board will grant and issue to physicians duly licensed by law, certificates or other equivalent recognition of special knowledge in urology; and revoke the same.
3. The board will endeavor to serve the public, hospitals, medical schools, medical societies and practitioners of medicine and surgery by preparing lists of urologists whom it has certified.

LIMITATIONS OF FUNCTIONS

The conferring of degrees, "Doctor of Medicine" or "Bachelor of Medicine" remains with the universities, where it belongs, and this board makes no attempt to control the practice of urology by license or legal regulations. This board does not intend in any way to interfere with or limit the professional activities of any duly licensed physician.

REASON FOR APPLYING FOR A CERTIFICATE; ITS VALUE

The American Urological Association, the American Association of Genito-Urinary Surgeons, and the Section on Urology of the American Medical Association are interested in furthering the cause of urology and have participated in the formation of this board. They are sponsoring its activities. The various national medical societies, the public, hospital directors and others will utilize the certification from this board as a means of discriminating between those well grounded as specialists in urology and those who are not.

Lists of individuals who have certificates from this board, and who are engaged in the practice of urology, are published in the Directory of the American Medical Association (signified in biographical data by symbol, "A.B.6"); in a handbook issued from time to time by the American Board of Urology, Inc., and in the Directory of Medical Specialists, published by the Advisory Board for Medical Specialties.

Application for this certificate is purely voluntary. There is only one type of certificate. No special marking or printing appears on the certificate which may identify diplomates who have or have not taken all or part of the examination. *All certificates are identical.*

The Advisory Board for Medical Specialties working in conjunction with, and reporting to, the Council on Medical Education and Hospitals of the American Medical Association, has set certain standards of preparation for specialization which the American Board of Urology, Inc., wishes to adopt. The Advisory Board has drawn from the experience of all the present functioning boards and has been of inestimable assistance in the formulation of the Constitution and By-Laws for the Board of Urology.

APPLICATION BLANK; REQUIREMENTS FOR ALL APPLICANTS

Application for certification must be made on a special form. This will be provided by the secretary and must be returned to him, accompanied by other required data and credentials and by $35 of the examination fee.

REQUIREMENTS FOR APPLICANTS

Each applicant, before he shall become eligible to take the examination for certification in urology, must:

A. Have graduated from a medical school of the United States or Canada recognized by the Council on Medical Education and Hospitals of the American Medical Association, and must have completed an internship of not less than one year in a hospital approved by the same council. (The former requirement is not applicable to a candidate who graduated from an institution now extinct, or whose graduation occurred before the American Medical Association had prepared a list of accredited medical schools.) All graduates of foreign medical schools must obtain a license in the state in which they propose to practice medicine and the certificate of the National Board of Medical Examiners before making application for certification.

B. Establish in a manner satisfactory to this board that he is a physician duly licensed by law to practice medicine, that he is of high ethical and professional standing and that he has received adequate special training in urology.

The board is attempting to increase and to standardize the facilities for urological training in teaching institutions, so that the expression "special training in Urology" may be interpreted to include:

1. A period of study, after the internship, of not less than three years in clinics, dispensaries, hospitals or laboratories recognized by the Council on Medical Education and Hospitals of the American Medical Association as competent to provide a satisfactory training in the special field of urology.

This period of specialized preparation should include:

(*a*) graduate training in anatomy, physiology, pathology, and the other basic medical sciences which are necessary to the proper understanding of the disorders and treatment involved in the specialty of Urology.

(*b*) an active experience of not less than eighteen months in hospital clinics, dispensaries and diagnostic laboratories recognized by the Council on Medical Education and Hospitals of the American Medical Association as competent in the diagnosis and treatment of urologic conditions.

(*c*) examinations in the medical sciences basic to the specialty of Urology, as well as in the clinical, laboratory and public health aspects.

2. An additional period of not less than two years in the practice of urology in the city from which he makes application.

These special requirements conform with the suggestions made by the Council on Medical Education and Hospitals of the American Medical Association.

C. Make application to the American Board of Urology, Inc., whose duty it shall be to investigate the applicant's credentials and make a survey of his character;

D. Assure the board that he is engaged in the practice of urology and that he intends to continue to be so engaged;

E. Membership in the American Medical Association, or comparable national medical association is recommended.

FEE

The examination fee is $100. (This fee will be increased when the expense of the examinations and other activities of the board demand.) Thirty-five dollars must accompany the

application. If, on investigation, an applicant is found lacking in any of the requirements stated above, he will be notified that he is ineligible for examination. Sixty-five dollars must be paid when the applicant is accepted as a candidate for certification. Neither fee shall be returnable in any event.

If a candidate fails, he will be permitted a second examination after one year or within three years, without additional fee, but he must give sixty days' notice of his intention to appear for reexamination. After an applicant has failed twice, he must file a new application and pay a second fee.

REQUIREMENTS FOR CERTIFICATION

According to the By-Laws of the American Board of Urology, Inc., applications received from applicants for certification shall be examined by the Credentials Committee and reviewed by the board. When additional data are required to complete the application, these will be requested by the secretary.

The requirements for certification include: personal appearance before the board; preparation of reports of fifty major urological cases, under the candidate's own supervision, which must contain all items essential for diagnosis, therapy, prognosis, results of treatment, etc.; oral-clinical examinations, and written examinations.

In specific instances the board may waive any part of these requirements, with the exception of the item of personal appearance.

Each candidate will receive a notice of the time and place of the examinations and an appointment for his personal appearance before the board.

EXAMINATIONS, WHERE HELD, CHARACTER OF, AND REPORTS OF CASE HISTORIES

The board will hold one examination per year. This may be held in association with the annual meetings of the American Urological Association or the American Medical Association, when this is practicable, or at other times and places that the board may select or deem expedient.

The written examinations are designed to test the candidate's preparation in, and his knowledge of, the whole field of urology, including the fundamental subjects: pathology, anatomy, physiology, embryology, bacteriology, physiological chemistry and endocrinology. These may be given at the time of the oral-clinical examination or may be held on certain dates simultaneously in different parts of the country at places convenient for candidates. The examination in pathology will consist of the identification of gross specimens and of sections of tissue observed through the microscope. The examination in anatomy, physiology, embryology, bacteriology, physiological chemistry and endocrinology will be a test of the candidate's working knowledge of these subjects as they are related to the practice of urology.

The oral-clinical examination will consist of discussions of common urological conditions. The subjects forming the basis of this examination are: urography; diseases of the genital organs, including the prostate; diseases of the urinary bladder, and diseases of the ureters and kidneys. The examination may deal directly with data found in the reports of case histories that the candidates have submitted. It will ascertain the candidate's familiarity with recent literature, the breadth of his clinical experience, and his general qualifications for practice in the specialty of urology.

The professional adaptability of each candidate will be investigated in an attempt to determine his ethical conduct and his attitude toward his patients and fellow practitioners.

The reports of fifty major urological cases must be consecutive and must have been under the candidate's own supervision. They must not be abstracted. Sufficient data should appear in these so the examiner will know that a proper history was taken and that a thorough examination, including a complete physical survey, was made.

Case reports that are copied verbatim from a hospital record are not accepted. They must be identffied by the name of the hospital and the case admission numbers, with the pertinent dates. The reports must be typewritten on 8½ by 11 paper and in duplicate, but need not be on any special forms.

The data should be placed under proper headings and the arrangement of these should conform to the sequence of events incidental to the patient's admission to the hospital or clinic, the examinations made and the treatment prescribed.

The board requires that all of the essential points of the history and examination, as well as a complete description of the surgical procedure shall be given. Emphasis should be placed on the following items: Preoperative diagnosis, clinical and pathological diagnosis, laboratory data, including cultures of urine and chemical analysis of calculi; summary of postoperative course with special reference to morbidity, clinical findings at time of discharge from the hospital and subsequent "follow-up" reports.

A final short paragraph must be prepared for each case. This must include the candidate's interpretation of the history in terms of pathology; the basis for the diagnosis; the facts that determined the treatment prescribed, whether surgical or otherwise; the course of treatment to be pursued following discharge from the hospital or clinic; a critical discussion of the knowledge gained from the proper handling of the case, or from the errors made (if any) in the diagnosis and method of treatment.

Complete separate index lists must accompany the reports. If the reports are obtained from more than one hospital they must be consecutive and a separate index list of each group should be provided. These lists must state the operator's name at the head of each page, the name of the patient, the hospital and admission number, and the dates of operation. Statements from the superintendents of the hospitals, attesting that the candidate was the operator must be included. The lists will be filed in the secretary's office for verification purposes.

Each candidate must assume personal responsibility for the data in his case reports, including autopsy findings and interpretation of urograms.

A candidate must remember that these case reports are documentary evidence of his ability and that the material in them and the manner of presentation are important evidences of his competence as an urologist.

Satisfactory case reports must be submitted before a candidate will be permitted to continue with other parts of his examination. If case reports are pronounced unsatisfactory by more than one examiner, the candidate will be informed of this and requested to prepare others.

Case reports must be submitted to the secretary of the board at least ninety days before the time set for the oral-clinical examination.

FINAL ACTION OF THE BOARD

Final action is based on the applicant's training, his professional record, his attainments in the field of urology, and the results of the examination. Any well trained urologist will have no difficulty in obtaining the board's certification. This board is organized not to prevent qualified urologists from obtaining certificates, but to assist them in becoming recognized in their communities as men competent to practice in the special field of urology.

The activities described above proceed from the certificate of incorporation in which is stated the nature of the business, objects, and purposes proposed to be transacted and carried out by this corporation.

REVOCATION OF CERTIFICATE

Certificates issued by this board are subject to the provisions of the Articles of Incorporation and the By-Laws. According to Article IX, Section 4, of the By-Laws, "each certificate shall be subject to revocation in the event that:

"(*a*) The issuance of such certificate or its receipt by the physician so certified shall have been contrary to, or in violation of, any provision of the Certificate of Incorporation of this, the American Board of Urology, Inc., or of the By-Laws; or

"(*b*) The physician or party certified shall not have been eligible to receive such certificate, irrespective of whether or not the facts constituting him so ineligible were known to, or could have been ascertained by, the directors of the board at the time of the issuance of such certificate; or

"(*c*) The physician or party so certified shall have made any misstatement of fact in his application for such certificate or in any other statement or representation to the board or its representatives; or

"(*d*) The physician so certified, at any time while continuing to practice, shall cease to practice urology; or

"(*e*) The physician so certified shall at any time have neglected to maintain the degree of competency in the practice of the specialty of urology as set up by the board, and shall refuse to submit to reexamination by the board.

"The Board of Trustees of this Corporation shall have the sole power, jurisdiction and right to determine and decide whether or not the evidence or information before it is sufficient to constitute one of the grounds for revocation of any certificate issued by this corporation. The Board of Trustees may, however, in its discretion, require any physician so certified to appear before the Board of Trustees or before any one or more of them or before any individual or individuals designated by

the Board of Trustees, on not less than twenty days' written notice, and to show cause, at the time and place specified in such notice, why his certificate should not be revoked on any one or more of the above-described grounds specified in such notice. The failure of any physician so notified to appear as required in such notice, without due excuse deemed sufficient to the Board of Trustees, shall constitute, ipso facto, cause for revocation of his certificate. The decisions of the Board of Trustees relating to all matters under this Section 4 shall be final and binding."

Checks should be made payable to: "The American Board of Urology, Inc."

Communications should be addressed to the secretary-treasurer.

ADVISORY BOARD FOR MEDICAL SPECIALTIES

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L. K. CHANDLER, Vice President, San Francisco.
B. R. KIRKLIN, Secretary-Treasurer, 102-110 Second Ave., S.W., Rochester, Minn.
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National Board of Medical Examiners
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JAMES B. BROWN, St. Louis.

American Board of Neurological Surgery
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WILLIAM J. GERMAN, New Haven, Conn.

FOREWORD

The Advisory Board for Medical Specialties has prepared this booklet for the purpose of furnishing general information regarding its activities in connection with graduate medical education and the certification of medical specialists in the United States and Canada. It is designed also to give detailed information concerning the procedure to be followed by examining boards in the various specialties in order to obtain membership in this Advisory Board and official recognition by the Council on Medical Education and Hospitals of the American Medical Association. This information is based in large part on the experience of previously formed boards during the past twenty-five years.

ORGANIZATION

This Advisory Board was organized in 1933-1934 to coordinate graduate education and certification of medical specialties in the United States and Canada.

Several specialty boards had been functioning actively and successfully for a number of years prior to the organization of the Advisory Board for Medical Specialties. Their purposes were, primarily, to establish minimum standards of graduate educational and training requirements for physicians representing themselves to the public as being specialists, with certification by the boards of candidates after they had been able successfully to pass the boards' examinations. Secondarily, these boards hoped to improve the general standards of graduate medical education and facilities for special training. This aim is being steadily and rapidly accomplished.

Credit for the improvement in undergraduate medical education, so noticeable in this country during the past thirty years, is due to the efforts of universities, educational foundations, medical schools, medical societies, and to public support along these lines. The same is true of the present transition in graduate education in the specialties, sharply stimulated by the establishment and activities of these certifying boards.

The American Board of Ophthalmology was the first special certifying board to be created in 1916; the American Board of Otolaryngology, established in 1924, was followed by the American Board of Obstetrics and Gynecology in 1930, and the American Board of Dermatology and Syphilology in 1932.

During part of this period of time plans for the organization of similar boards in other specialties were being actively projected, all of these groups being desirous of availing themselves of the experiences of the already existing boards.

It was soon recognized that some formal and official plan of organization must be established. It was clearly essential that an examining board must have the official sanction of the national societies in its given specialty as well as that of its section of the American Medical Association, but there was, at that time, nothing to prevent unofficial groups from organizing examining boards and using the title American Board.

Consequently, in order to avoid duplication of effort as well as to coordinate the work of the several boards and other interested groups into a concise and homogeneous plan for betterment, it was deemed advisable to create an Advisory Board which should give consideration to those problems common to all, and which should be representative of each organization concerned.

During the years 1933 and 1934 this Advisory Board was organized and began actively to function. Simultaneously at the Milwaukee session of the American Medical Association in 1933 a resolution was adopted authorizing the Council on Medical Education and Hospitals: (1) to formulate standards of administration based in general on those of the American Boards of Ophthalmology, of Otolaryngology, of Obstetrics and Gynecology, and of Dermatology and Syphilology and, (2) to recognize officially new boards meeting these standards, this recognition to be based upon previous approval and recommendation to the Council by the Advisory Board.

A constitution and by-laws for the Advisory Board was adopted at a meeting in Chicago on February 11, 1934. The original member organizations of the Advisory Board for Medical Specialties were: the Association of American Medical Colleges; the American Hospital Association; the Federation of State Medical Boards of the U. S. A.; the National Board of Medical Examiners; the American Board of Ophthalmology, founded 1916; the American Board of Otolaryngology, founded 1924; the American Board of Obstetrics and Gynecology, founded 1930; and the American Board of Dermatology and Syphilology, founded 1932. Two representatives were appointed from each of these organizations to serve on the Advisory Board. Since that time the American Board of Pediatrics (1934), of Psychiatry and Neurology (1934), of Radiology (1934), of Orthopaedic Surgery (1935), of Urology (1935), of Internal Medicine (1936), of Pathology (1936), of Surgery (1937), of Anesthesi-

ology (1938), of Plastic Surgery (1938), and of Neurological Surgery (1940) have been properly organized, approved, and elected to membership in the Advisory Board and recommended to the Council on Medical Education and Hospitals of the American Medical Association for official recognition. There are, therefore, fifteen examining boards now organized, approved and actively functioning in the fifteen specialties recognized as suitable fields for the certification of specialists.

The work of this board has been aided by grants from the Josiah Macy Jr., Foundation of New York, but the board is now supported by its component groups.

PURPOSE

Article II of the Constitution states that, "This board shall act in an advisory capacity to such organization as may seek its advice concerning the coordination of the education and certification of medical specialists." Specifically, this represents an official effort to advance the standards and improve the methods of graduate education and training in the medical specialties, with certification of men thus educated and trained who qualify as specialists in the various branches. The common interest of the member organizations in these purposes is obvious. It is equally apparent that some fixed definition of specialties needed to be established, preferably on a graduate educational basis, that minimum standards of organization and conduct for new examining boards should be fixed, and that some official method of recognition be developed.

There is no desire on the part of these boards to interfere with any practitioners of medicine in any of their regular or legitimate activities. Their fundamental purpose is to ensure to the public, both lay and medical, and for its protection, that physicians claiming to be specialists with presumably special proficiency in one or another branch of medicine actually possess the qualifications they claim. This presupposes special training and demonstrable capability along certain lines of work. Suitable evidence of this is the ability of an individual to satisfy an examining board about his training and then to pass the examination for certification.

Surveys of existing facilities for graduate training in the various specialties are being conducted at the present time; residencies as well as preceptorship and assistantship training are being studied; preparations for stimulating medical school and hospital facilities for the required graduate training are going forward actively; round table conferences furnish discussions of subjects of interest in regard to graduate medical education.

The Council on Medical Education and Hospitals of the American Medical Association has agreed, under the authority vested in it by the resolution passed at the Milwaukee meeting (1933) and referred to above, that applications of special examining boards for official approval are to be referred to the Council through the Advisory Board for Medical Specialties, recommendation by the Advisory Board for such approval to be based upon the standards mutually adopted. The understanding exists that the Council cannot be bound by recommendations of the Advisory Board but will consult the Advisory Board of Medical Specialties before acting on any application so long as mutually adopted standards are in force.

Early in 1940 there was published the first edition of the Directory of Medical Specialists containing the names and biographic data of all men certified by the several specialty boards, as well as information regarding the organization and functions of these boards. The third edition (1946) carries the names and medical biographies of 24,028 diplomates of the fifteen specialty boards.

In response to the generally recognized need for a clear formulation of the educational problems and principles involved in graduate and postgraduate medical training, the Advisory Board at its meeting in June 1937 voted to create a Commission on Graduate Medical Education to study the various aspects of the whole problem. This commission included representatives of the profession, the specialties, the universities, the hospitals, and the licensing bodies. The report of this commission comprising 304 pages appeared in 1940, published by the University of Chicago Press, and is of real assistance to the various specialty boards, hospitals, medical schools, and regulatory bodies dealing with this phase of American medicine.

MEMBERSHIP

The Advisory Board is composed of two representatives from each of the approved examining boards in the medical specialties and such other national organizations as are interested in education, examination, and certification of medical specialists and duly elected to this body.

The Constitution provides that, "To be eligible for representation in this board an examining board in a specialty must be composed of members elected from or appointed by societies recognized by this board as a national society in that specialty together with representation from the related section of the American Medical Association." On being accepted by the Advisory Board, the board in question is recommended to the Council on Medical Education and Hospitals of the American Medical Association as qualified for recognition. Membership in the Advisory Board provides for the inclusion of the name of the organization in all lists and directories published by the Advisory Board for Medical Specialties and provides also for publication of the names of specialists certified by each individual examining board.

This board reports directly to its member groups, and functions in close cooperation with the Council on Medical Education and Hospitals of the American Medical Association, and with the Advisory Council on Medical Education.

Meetings of the Advisory Board for Medical Specialties are held annually as required.

Traveling and other expenses of representatives in attendance are borne by member organizations.

SUGGESTIONS TO NEW BOARDS SEEKING APPROVAL

I. Oranization

1. A special examining board to be approved by the Advisory Board for Medical Specialties should represent a recognized and distinct specialty of medicine. (It is agreed between the Council and the Advisory Board that no board shall be organized in a special field having less than one hundred members engaged in special practice in the United States.)

2. It should be composed of representatives of the national organizations in that specialty including the related section of the American Medical Association.

3. It should be incorporated.

4. A special board should:

(a) Determine whether candidates have received adequate preparation.

(b) Provide a comprehensive test of the ability and fitness of such candidates.

(c) Certify to the competence of those physicians who have satisfied its requirements.

II. Definition of Special Fields

The following branches of medicine at present are recognized as suitable fields for the certification of specialists.

1. Internal Medicine
2. Surgery
3. Pediatrics
4. Obstetrics and Gynecology
5. Ophthalmology
6. Otolaryngology
7. Dermatology and Syphilology
8. Psychiatry and Neurology
9. Urology
10. Orthopaedic Surgery
11. Radiology
12. Pathology
13. Neurological Surgery
14. Anesthesiology
15. Plastic Surgery

III. Qualifications of Candidates

Each applicant for admission to the examination should be required to present evidence that he has met the following standards:

A. General Qualifications.

1. Satisfactory moral and ethical standing in the profession.

2. Membership in the American Medical Association or membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association. Membership in other societies should not be required. (Exceptions to the foregoing may now be made at the discretion of any individual board for good and sufficient reasons.)

B. Professional Qualifications.

1. Graduation from a medical school recognized by the Council on Medical Education and Hospitals of the American Medical Association.

2. Completion of an internship, preferably of the general rotating type, of not less than one year in a hospital approved by the same Council.

C. Special Training.

1. A period of study, after the internship, of not less than three years in clinics, dispensaries, hospitals or laboratories recognized by the same Council and respective specialty board as competent to provide a satisfactory training in the special field of study.

2. This period of specialized preparation should include:

(a) Graduate training in anatomy, physiology, pathology, and the other basic medical sciences which are necessary to the proper understanding of the specialty in question.

(b) An active experience of not less than eighteen months in hospital clinics, dispensaries and diagnostic laboratories recognized by the Council and respective board as competent in the specialty.

(c) Examination by the respective board in the basic medical sciences of a specialty as well as in the clinical, laboratory and public health aspects.

3. An additional period of not less than two years of study and/or practice.

These essentials were adopted by the Advisory Board for Medical Specialties June 10, 1934 and have had only minor changes since then. They are practically identical with an outline of Essentials for Approved Examining Boards in Specialties adopted June 10, 1934 by the Council on Medical Education and Hospitals of the American Medical Association and ratified June 11, 1934 by the House of Delegates of the American Medical Association.

ORGANIZATION OF EXAMINING BOARDS

The foregoing essentials for approved special examining boards were followed in the organization of the existing boards.

Official sponsorship of the national societies, and the related section of the American Medical Association, in a specialty organizing an examining board, has included the election or appointment of representatives from each of these national societies to serve on the board as examiners and directors.

Each board was or is incorporated. Each application for organization and approval included:

1. The name of the proposed board.
2. A statement of its method of organization, the sponsoring societies, its list of officers, and the names and addresses of the elected or appointed members of the board, including the societies which each represents.
3. A copy of the tentative constitution and by-laws.
4. A copy of its proposed articles of incorporation.
5. An outline of qualification requirements for applicants.
6. Approximate number of institutions offering residency training in the specialty and total number of residencies available.
7. An outline of proposed methods of examination.
8. A copy of the application blank.
9. Any general information or statement of importance.
10. Approximate number of physicians practicing the specialty which the board represents.

These data are submitted in duplicate to the office of the Secretary of the Advisory Board for Medical Specialties.

An application for election to membership in the Advisory Board and the data listed above are referred immediately for review by the Committee on Standards and Examinations of the Advisory Board. On approval by the committee incorporation is then completed and a statement of this filed with the secretary. Action on the application will be taken at the succeeding meeting of the Advisory Board for Medical Specialties and each examining board as elected will be recommended to the Council on Medical Education and Hospitals of the American Medical Association for official recognition. One of the two sets of data submitted is forwarded to the Council on Medical Education and Hospitals of the American Medical Association with the Advisory Board's recommendations. Examination and certification of applicants in the specialty may begin immediately when the special board is given such approval.

Communications should be addressed to the secretary.

CONSTITUTION AND BY-LAWS

Adopted at Organization Meeting, February 11, 1934

ARTICLE I

NAME

The name of the organization shall be "The Advisory Board for Medical Specialties."

ARTICLE II

PURPOSE

This board shall act in an advisory capacity to such organizations as may seek its advice concerning the coordination of the education and certification of medical specialists. N action taken by this Board shall be binding upon any member organizations.

ARTICLE III

MEMBERSHIP

Section I

This board shall be composed of two representatives from each of the examining boards of the medical specialties and such other national organizations as are interested in education, examination, or certification of medical specialists.

Section II—Original Membership

At the time of the organization, this board shall be composed of representatives from each of the following bodies:

American Board of Ophthalmology
American Board of Otolaryngology
American Board of Obstetrics and Gynecology
American Board of Dermatology and Syphilology
Association of American Medical Colleges
National Board of Medical Examiners
Federation of State Medical Boards
American Hospital Association
Council on Medical Education and Hospitals of the American Medical Association

Section III—Additional Membership

To be eligible for representation in this board an examining board in a specialty must be composed of members elected from or appointed by societies recognized by this board as national societies in that specialty together with representation from the related Section of the American Medical Association. Upon being accepted by this Advisory Board the board in question will be recommended to the American Medical Association as being qualified for recognition by that Association.

Section IV—Quorum

A quorum at any meeting shall consist of a majority of the official representatives to the board and at least one third of the membership organizations shall be represented. Each member organization shall be entitled to two votes.

ARTICLE IV OFFICERS AND STANDING COMMITTEES

Section I—Officers

The officers of this board shall be (a) President, (b) Vice President, (c) Secretary-Treasurer. These officers shall be elected at the annual meeting each year.

Section II—Standing Committees

The standing committees shall be as follows:

1. The Executive Committee
2. Standards and Examinations
3. Finance

The Executive Committee shall consist of the President, Vice President, Secretary-Treasurer, and two members elected at the annual meetings. No organization should have more than one member on the Executive Committee. The President shall be the Chairman of the Executive Committee. The other standing committees shall be appointed by the President.

ARTICLE V AMENDMENTS TO THE CONSTITUTION

Amendments to this constitution may be made by a majority vote of the official representatives present at any annual meeting provided that thirty days' notice of the proposed amendment has been given each member of the board.

ARTICLE I

BY-LAWS

DUTIES OF OFFICERS

Section I

The President shall preside at all meetings of the board, shall act as Chairman of the Executive Committee, and shall appoint all other standing committees. He shall call meetings of the Executive Committee at such time and place as may be deemed necessary.

Section II

The Vice President shall assume the duties of the President in his absence.

Section III

The Secretary-Treasurer shall perform the usual duties of this office.

ARTICLE II EXECUTIVE COMMITTEE

The Executive Committee shall carry out the policies and activities decided upon by the board. It shall have ad interim authority to initiate policies subject to approval by the board at the annual or any special meeting. The two elected members shall serve for two years, the terms of office terminating in alternate years.

ARTICLE III MEETINGS

Section I

There shall be an annual meeting at such time and place as the board may determine. A special meeting may be called by the president upon ten days' notice to all members stating time, place and purpose of such meeting. The Executive Committee may present other business for consideration.

Section II

The Executive Committee shall meet subject to the call of the President.

Section III

Robert's Rules of Order shall be followed except where they conflict with this Constitution and By-Laws.

ARTICLE IV AMENDMENTS TO THE BY-LAWS

Amendments to these by-laws may be made at any regular or special meeting of the board.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, AUGUST 16, 1947

TRENDS IN MEDICAL EDUCATION

In this issue of The Journal the report of the Council on Medical Education and Hospitals reveals several trends in the field of medical education. Topics that need special comment are the continuation of the accelerated program, the number and academic performance of veteran medical students, the number of women students, premedical requirements, admission policies and the development of new medical schools.

Early in 1946 most medical schools decided to discontinue the accelerated program adopted during the war and have now practically completed reconversion to prewar schedules. Seven of the four year schools, however, are continuing an accelerated schedule for all classes. Acceleration is required of all students in four of these schools and is voluntary in the other three. Many educators have felt that the numerous other difficulties that surrounded medical education during the war made it impossible to assess accurately the merits of the accelerated schedule. The experience under peacetime conditions of the seven schools that are continuing acceleration should provide valuable information for a more reliable appraisal of this educational experiment.

Veterans already comprise well over one half of the students enrolled in our medical schools. Only the 1946-1947 junior class had more nonveterans than veterans, and in that class the veterans were outnumbered by only 2.2 per cent. In next year's freshman class veterans will number over 70 per cent. From his performance in the 1946-1947 freshman class, it appears that the veteran is a somewhat better student than either his nonveteran classmates or the freshmen of prewar years.

During the past three years the number of women studying medicine in this country has almost doubled. In 1946-1947 women comprised 9.1 per cent of the total enrolment in the medical schools of the United States, an all time high. The highest percentage of women, 11.1, was in the freshman class. Present figures would indicate that in 1947-1948 somewhat fewer women will be counted among the entering students, although the estimated figure of 9 per cent is well above prewar levels.

During the war most schools lowered by a year or more the period of college training required of candidates for admission. There is now a distinct trend toward the reestablishment of the prewar requirements. Of the eighty-seven medical and basic science schools in the United States and Canada, seventy-five now require three or more years of premedical work. In some schools veterans may be admitted after a shorter period of college training.

A study of the geographic source of the students in the 1946-1947 freshman class reveals that a trend may be developing for medical schools, particularly those that are tax supported, to restrict admission to residents of the state or community in which they are located. If a definite trend in this direction occurs it may lead to unfortunate consequences for the individual schools and for medical education in general. Such a practice would result in a school's losing a number of outstanding students because they happened to be nonresidents, and it would also narrow the scope of the school's influence and support. Another evil would be to encourage the development of schools in states that are not in a position to establish and maintain acceptable medical schools. University administrators, public officials and others who have the authority to determine admission policies must be urged to maintain a long range view and not be stampeded by immediate pressures into adopting harmful expedients.

An expansion of the facilities for medical education in this country seems certain to occur during the next several years. One new medical school opened during the past year, and funds for initiating a building program were appropriated for another. Several basic science schools are considering expansion to a four year program, and plans for establishing several new medical schools are under discussion.

New medical schools, properly sponsored and with adequate financial support and access to the necessary amount of clinical material, are healthy developments in medical education. The new ideas and new opportunities that such institutions contribute have a real value. However, the development of a new medical school is a major undertaking that should not be started until it is clear that the requirements for establishing and maintaining an acceptable medical school can be fully met.

FINANCING MEDICAL EDUCATION

The cost of operating the medical schools of this country, exclusive of their teaching hospitals, will be somewhat more than $43,000,000 for the academic year 1947-1948. Less than one third of this sum will be obtained from student fees. The fact that during the coming year medical schools will receive more than $31,000,000 from endowments, general university funds, gifts and tax sources is good evidence of the determination of university administrators, trustees and legislators to continue to provide a program of high quality in the field of medical education. That such a policy results in a rich return to the people in health, happiness and economic productivity has been demonstrated by experience.

It is important, however, to point out that at least one fourth of our medical schools are still operating on grossly inadequate budgets and that the efforts of many more schools are limited by budgets that are but slightly less inadequate. The solution to the problem of how to increase the financial support of medical education is being urgently sought in many quarters.

During the coming year medical school budgets will be supplemented by grants totaling about $10,000,000 from foundations, governmental agencies and other extra-university sources. Relatively few of these grants are designed primarily to strengthen educational programs. The majority are awarded for the prosecution of specific research problems.

It cannot be denied that many grants for research benefit the educational activities of the institutions receiving them. However, the question could be raised as to whether the fundamental cause of medical education and medical science would not be better served if more grants were available for the specific purpose of helping schools strengthen their educational activities.

Those responsible for establishing and awarding grants should consider this problem. Medical schools and other educational institutions are having increasing difficulty in securing large unrestricted gifts or additions to endowments. This situation may well make advisable a modification of policy in disbursing such funds as have already been accumulated by foundations and other agencies for the purpose of furthering medical science.

A policy of giving more direct financial support to the educational activities of medical schools can be fully justified. Since effective research is the product of trained minds whose scientific curiosity has been stimulated, it is reasonable to believe that a greater investment by foundations and similar groups in improving the fundamental training of physicians as a class will ultimately bring a much larger return in scientific knowledge and scientific practice than will the expenditure of funds almost exclusively in support of the special activities of a few selected investigators.

MEDICINE IN BRAZIL

Brazil is a country of amazing contrasts. Side by side the most modern and advanced in the science of medicine and in the practice of sanitation struggle against the lassitude of the tropics. Hundreds of young men trained in the highly technical procedures of medicine in the institutions of North America endeavor with courage and sacrifice to overcome the imperturbable self-satisfied tradition of obsolete European technics of medical teaching and practice. A score of medical societies, each with a few hundred members, waste the intellect and energies of their leaders in strife for individual political preferment; thus they remain ever subservient to varying governmental powers, when a consolidated medical opinion might speak with a voice to which government would listen.

There are eleven medical schools in Brazil, of which not more than a few if any could qualify under the minimum standards established by the Council on Medical Education and Hospitals. The internship is practically unknown, although a few leading hospitals have established internships. Schools of nursing are just beginning to be inaugurated; in many hospitals the family moves in with the patient to take care of his nursing. Tuberculosis constantly menaces the vast illiterate population, which includes between 70 and 80 per cent of Brazil's forty million people. Spitting is so common that even the newest hospital has special sputum basins in all the halls. Tuberculosis of bones and joints and particularly of the spine is frequent. The funds and institutions for its care are so inadequate to the need that most patients are subjected to fusion operations and a quick discharge from the hospital. Apparently the majority of the patients who have had infantile paralysis come to scientific medical attention from two to ten years after their first paralysis, after deformity and distortion have reached their maximum. Life expectancy for the population as a whole is quite certainly under fifty; but all the statistics relative to those outside the cities are subject to considerable doubt. Heretofore most of the people have had misgivings about hospitals, conceiving of them as places to which one might be taken when in a morbid condition. The postmortem examination in most institutions is virtually nonexistent. Government is charged with graft; every evil of bureaucracy is exaggerated beyond belief; for instance, one hears that the great new hospital which does not open for three or four more months has already three hundred clerical employees on its permanent payroll. Brazil has under twenty thousand physicians—probably fifteen thousand in practice—one doctor to three thousand people; great numbers of medical journals with maximum circulations around three thousand largely supported by uncon-

trolled advertisements. "Patent" medicines are sold without any apparent controls, and quick cures for syphilis are plugged on the radio. The newspapers are primitive, and even the one published in English carries solicitations by physicians. Any casual observer could multiply enormously these critical comparisons. Such destructive indictments, however, are little likely to lead to correction or advancement.

Through the office of the Institute of Inter-American Affairs vast benefit has already come to Brazil. Great areas have been freed from the menace of insect vectors of disease. Education of both the professions and the public in the fundamentals of hygiene and nutrition has been carried on with intelligence and good will. Since general provision of pure water, sewage disposal and similar public health projects is economically impossible, a beginning is made with safe wells and privies; the people in many areas have been quick to recognize their value and occasionally set up their own funds for extension of such projects. For this work there can be only encomium and a plea for its continuation and extension to the maximum of the means available.

The young men who have studied medicine in the United States need all the encouragement and help we can continue to give them after they return home to practice. Perhaps one or more generations will have to pass before the real significance of what they are doing will be recognized in their own country. In the meantime they battle against the status quo. The professorships in the medical schools are appointments made for life; the staff positions in most of the public hospitals are controlled by political influence; the small private hospitals are inadequate and commercial and subject to all the abuses that were only too well known in the United States during a similar period in our own evolution. Many of the young men trained in our own medical schools are reluctant to go into rural or frontier areas because of the lack of access to all the auxiliary medical services they used in the hospitals where they had their internships and residencies; a similar condition prevails in Brazil.

The extension of medical and public health projects from the United States to Latin America has served to introduce much of what is best in the medical science of the United States to millions of people who previously had little if any knowledge of the American way in medicine. Such movements as the Confederación Médica panamericana, the World Medical Association and the World Health Organization offer opportunity never previously available for emphasizing the international character of medical science and its leadership in promoting world peace.

THE INFLUENCE OF MEDICAL SCHOOLS ON GENERAL PRACTICE

Concern is being expressed in several quarters that too great a preponderance of recent graduates and students now in medical school are planning to become specialists and that not enough young physicians are interested in the practice of general medicine. It has been suggested that more discussion of the advantages and importance of general practice by the deans or other leaders in medical schools would result in more students being attracted to this field of medicine.

This question would seem to be part of the larger problem of providing medical students with more adequate information on the sociologic and economic aspects of medicine than has been done in the past. The fact that more and more medical schools are acknowledging this responsibility is definitely encouraging. It must be recognized, however, that many forces influence medical students in the choice of a career and that the point of view that a medical school fosters is only one of these forces.

Medical schools have also been urged to stimulate interest in general practice by encouraging their affiliated hospitals to develop internship and residency programs particularly designed to prepare men for the practice of general medicine. Several schools have already recognized the merit of this suggestion and are sponsoring such programs in their affiliated hospitals. Many who are close to the problem believe that, if more teaching hospitals would offer two year mixed or rotating services, a greater number of students would be encouraged to seek hospital appointments that would fit them for general practice.

The responsibility for the future of general practice falls on the public, the hospitals and the entire medical profession as much as it does on the medical schools. There is every reason to believe that the medical schools are prepared to take their share of the responsibility for preserving and strengthening this fundamental branch of medical practice.

Current Comment

THE POSTWAR RECORD OF MEDICAL EDUCATION

The statistics presented in the annual report of the Council on Medical Education and Hospitals on medical education in the United States and Canada reveal clearly the effectiveness with which medical education has adapted its activities to postwar needs. During the academic year 1946-1947 the total enrolment in the medical schools of this country was the second largest since 1905. The number of graduates, 6,389, was the largest reported for any single academic year since the Council on Medical Education and Hospitals was established. The number of freshmen enrolled was only 84 short of the largest freshman enrolment on record. From these figures it can be seen that the training and production of physicians is being maintained without

interruption at the peak level of the effective capacity of our medical schools. This information should be of interest to veterans who have returned to their premedical studies and who have been concerned about a possible reduction in the opportunities for obtaining a medical education. Great efforts have also been exerted to provide opportunities for graduate study for veteran physicians desiring further training before entering practice. The number of approved residencies and fellowships in this country has been increased from 5,256 in 1941 to 12,003 in 1946-1947, an all time peak. Because of this expanded program the great majority of veterans have been able to secure within a relatively short interval after their separation from service opportunities for the additional training that they have desired. In considering the position of medical education in the postwar period, it should be observed that the average annual fee charged by medical schools in this country has increased only 21 per cent since 1940. This is a modest advance when compared with the increases in the costs of most other services and commodities during the same period. Thus, the record of medical education in fulfilling the demands of the postwar era can be favorably compared with the efforts and accomplishments of other groups in our society.

IMMUNIZATION WITH GAS GANGRENE TOXOIDS

Many attempts have been made to prepare immunizing agents against organisms of the gas gangrene group. In reporting the results of immunizing animals and human beings with gas gangrene toxoids, Tytell and his co-workers [1] state that potent toxin filtrates of Clostridium perfringens and Clostridium edematiens were used for the preparation of alum precipitated toxoids. These toxoids were tested on mice, guinea pigs, rabbits, goats, dogs and human volunteers and produced a measurable and protective titer of antibodies in animals. Good protection was obtained against multiple doses of toxin and bacterial culture. In animals protection was demonstrable against heterologous as well as homologous cultural strains. One dose of perfringens toxoid did not produce much rise in the antitoxin titers in human beings, but after two doses fairly good titers were evident in more than half. When a third dose was given three to nine months after the second, excellent titers were obtained in almost all of the human volunteers. Such titers were maintained for at least seven months. With perfringens toxoid good prospective titers were obtained with two doses, and excellent response after a third dose administered about four months after the second. Admixtures of the two toxoids were prepared. Good protective response to these mixtures was obtained in the experimental animals and in human beings after three doses. Reactions to these toxoids did not occur in the majority of volunteers. When they did they were as a rule not as severe as those produced by the alum precipitated toxoids of tetanus or diphtheria. These gas gangrene toxoids can be prepared on a commercial scale and have passed the safety tests outlined by the National Institute of Health.

1. Tytell, Alfred A.; Logan, Milan A.; Tytell, Alice G., and Tepper, Jack L.: Immunization of Humans and Animals with Gas Gangrene Toxoids, J. Immunol. **55**: 233 (March) 1947.

SUCCESS AND FAILURE AMONG MEDICAL STUDENTS

Failure of a student to complete the medical curriculum successfully once he has entered medical school is wasteful in many respects. A recent analysis of psychiatric factors involved in the success or failure of medical students throws light on some factors involved in failure. Waggoner and Zeigler [1] tested 148 freshmen at the University of Michigan Medical School, using the revised Stanford Binet Form L, the Wechsler-Bellevue Adult Scale, the California Test of Mental Maturity, the Nelson-Denny Reading Test for High School and College Students, the Wrenn Study Habits Inventory, the Shipley-Hartford Retreat Test for Mental Deterioration and the Rorschach Examination. Of the 148, only 8 were dropped from medical school for academic failure, although 47 per cent incurred one or more grades of D. In addition, 9 students withdrew or dropped back one year for reasons of finance, health or poor grades. According to these investigators, no one test should be relied on to yield scores which can be trusted to predict academic success. Coordination of the results of more than one psychologic study with the results of the Rorschach Examination and adequate psychiatric interview when properly interpreted will yield information from which adequate selection of medical students can be made. In some, the psychologic studies show evidence of adequate intellectual ability in spite of which there is academic failure. In most such cases evidence of conflicting situations of one sort or another becomes apparent through psychiatric interview. Rorschach studies also frequently provide valuable information or leads which indicate the trend which should be taken by psychiatric interview. The most important factors in obtaining a satisfactory medical school record are of three types: (1) psychologic factors, such as intelligence, the ability to read rapidly and well, and vocabulary; (2) a personality structure which enables the students to sustain the emotional stresses associated with medical school work, and (3) a relative freedom from the situational stresses which produce conflict and reduce the student's efficiency. The Michigan investigators believe it advantageous to set an I. Q. limit of 130 on the Stanford Binet test merely because that is the dividing line between the lower and upper 80 per cent of students. They believe that the competition for students below the 130 will be severe both in medical school and after graduation. The single test most needed in this field, they believe, is one for motivation. A strong desire and interest in medicine is of great importance in satisfactory accomplishment both in school and thereafter. The importance of a reliable selection of students before entering the regular medical course is so obvious that a later follow-up of the students whose tests Waggoner and Zeigler summarize would be worth making and reporting.

1. Waggoner, R. W., and Zeigler, Thornton W.: Psychiatric Factors in Medical Students Who Fail, Am. J. Psychiat. **103**: 369 (Nov.) 1946.

ORGANIZATION SECTION

Washington Letter

(From a Special Correspondent)

Aug. 13, 1947.

President Truman Vetoes Proposed Science Foundation

Using a pocket veto, President Harry Truman killed the bill to create a National Science Foundation composed of twenty-four members who would have been appointed by the President. Mr. Truman declared that the foundation as described in this plan would be complex and unwieldy and would impede rather than promote scientific research in this country. Critics attacked the contemplated part time board on the ground that a part time body should not have control of all activities concerned with government aid to science. President Truman was criticized by proponents of the measure. Senator T. Alexander Smith, Republican of New Jersey, said that the President had "set back the cause of science" ten years through the veto. He accused Mr. Truman of having made a "political football" out of "what undoubtedly would have been the greatest contribution made to this country by any Congress since the turn of the century."

Construction Costs Blamed for Revision of Veteran Hospital Plans

General Omar N. Bradley, veterans administrator, announced that drastic design revisions would have to be made in seventy-three proposed multi million dollar veterans' hospitals because of spiraling construction costs. As a result there will be up to six months delays on the projects. General Bradley said he found evidence that contractors were adding a 15 to 30 per cent "fear contingency cushion" to active construction bids. He said "Either we must modify the desirable but nonessential features of a substantial number of structures on the drawing boards or we may require as much as 100 million dollars in additional funds."

Increase in Mental Institutionalization Attributed to Housing Situation

The housing shortage was cited as one reason why 17 per cent more persons are being institutionalized for mental diseases this year than last. Dr. Winfred Overholser, head of St. Elizabeths Hospital, explained that old age is often accompanied with mental disease due to senility. People usually care for their old folk when they have room, but, with the housing shortage, relatives are now more inclined to allow institutionalization of the senile. Other reasons for the increase are return of service men to new situations in civilian life, letdown in the war stimulation and more general recognition that early care is advisable in mental diseases.

Army Proposes to Make Greater Use of Scientific Talents

The War Department announced that it will revise its classification system so that trained scientists can be placed in positions where better use can be made of their knowledge. Surveys revealed that the armed services did not make full use of scientifically trained manpower in the last war. Forty-seven per cent of younger scientists considered their know how had been used only to small advantage or not at all, while 75 per cent of older scientists believed their talents had been adequately used in war work.

Coming Medical Meetings

American Association of Medical Record Librarians, New York, Hotel Commodore, Sept. 7-12. Mrs. Adaline Hayden, 18 E. Division St., Chicago, Executive Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Hot Springs, Va., The Homestead, Sept. 4-6. Dr. James R. Bloss, 418 Eleventh St., Huntington 1, W. Va., Secretary.

American College of Surgeons, New York, Waldorf-Astoria Hotel, Sept. 8-12. Dr. Paul B. Magnuson, 40 E. Erie St., Chicago 11, Secretary.

American Congress of Physical Medicine, Minneapolis, Hotel Radisson, Sept. 2-6. Dr. Richard Kovacs, 2 E. 88th St., New York 28, Secretary.

American Congress on Obstetrics and Gynecology, St. Louis, Municipal Auditorium, Sept. 8-12. Mr. Karl S. Richardson, 24 West Ohio St., Chicago, Business Manager.

American Roentgen Ray Society, Atlantic City, Sept. 16-19. Dr. H. Dabney Kerr, University Hospitals, Iowa City, Secretary.

Colorado State Medical Society, Denver, Shirley-Savoy Hotel, Sept. 17-20. Mr. Harvey T. Sethman, 1612 Tremont Place, Denver 2, Executive Secretary.

International Cancer Research Congress, St. Louis, Hotel Jefferson, 2-7. Dr. Axel N. Arneson, 510 S. Kingshighway, St. Louis, Chairman Committee on Local Arrangements.

International College of Surgeons, U. S. Chapter, Chicago, Palmer House, Sept. 29-Oct. 2. Dr. Louis J. Gariepy, 16401 Grand River Ave., Detroit 27, Secretary.

Kentucky State Medical Association, Louisville, Sept. 29-Oct. 2. Dr. P. E. Blackerby, 620 S. Third St., Louisville 2, Secretary.

Michigan State Medical Society, Grand Rapids, Pantlind Hotel, Sept. 23-26. Dr. L. Fernald Foster, 2020 Olds Tower, Lansing 8, Secretary.

Mississippi Valley Medical Society, Burlington, Iowa, Oct. 1-3. Dr. Harold Swanberg, 510 Maine St., Quincy, Ill., Secretary.

Woolsey, 316 Atlas Bldg., Salt Lake City 1, Secretary.

National Medical Association, Los Angeles, Aug. 18-22. Dr. John T. Givens, 1108 Church Street, Norfolk 10, Va., Secretary.

Nevada State Medical Association, Reno, Sept. 4-6. Dr. Moreton J. Thorpe, 17 N. Virginia St., Reno, Secretary.

Oregon State Medical Society, Portland, Sept. 4-6. Dr. Thomas S. Saunders, 1020 S. W. Taylor St., Portland 5, Secretary.

Pennsylvania, Medical Society of the State of, Pittsburgh, Hotel William Penn, Sept. 15-18. Dr. Walter F. Donaldson, 500 Penn Avenue, Pittsburgh 22, Secretary.

Southeastern Dermatological Association, Knoxville, Tenn., Hotel Andrew Johnson, Aug. 31. Dr. A. H. Lancaster, 608 W. Main Ave., Knoxville, Secretary.

Utah State Medical Association, Salt Lake City, Sept. 11-13. Dr. Ray T. Woolsey, 316 Atlas Bldg., Salt Lake City 1, Secretary.

Vermont State Medical Society, Burlington, Hotel Vermont, Oct. 1-3. Dr. Theodore H. Harwood, 128 Merchants Row, Rutland, Secretary.

Washington State Medical Association, Seattle, Olympic Hotel, Sept. 28-Oct. 1. Dr. Harold E. Nichols, 327 Cobb Building, Seattle, Secretary.

Western New York and Ontario Urological Society, Saranac, N. Y., Saranac Inn, Sept. 3-6. Dr. Albert M. Crance, 525 S. Main St., Geneva, N. Y., Secretary.

World Medical Association, Paris, France, Sept. 17-20. Dr. Charles Hill, B. M. A. House, Tavistock Sq., London, W. C. 1, England, and Dr. P. Cibrie, 60 boulevard de Latour-Maubourg, Paris 7e, France, Joint Secretaries.

Medical Legislation

MEDICAL BILLS IN CONGRESS

National Science Foundation

The legislation proposing to establish a National Science Foundation, S. 526, was passed by the Senate and House but was vetoed by President Truman August 6th. This action of the President was predicated on the belief that the bill contained provisions which represent a marked departure from sound principles for the administration of public affairs in that it would vest the determination of vital national policies, the expenditure of large public funds, and the administration of important governmental functions in a group of individuals who would be essentially private citizens. President Truman said that the Constitution places upon the President the responsibility for seeing that the laws are faithfully executed, but that under the provisions of S. 526, the President would be deprived of effective means for discharging his constitutional responsibility because full governmental authority and responsibility would be placed in 24 part time officers whom the President could not effectively hold responsible for proper administration. Neither could the Director be held responsible by the President, for he would be the appointee of the Foundation and would be insulated from the President by two layers of part time boards. President Truman expressed the hope that the Congress will reconsider this question and that it will enact a basically sound law early in its next session.

Army-Navy-Public Health Service Medical Officer Procurement Act of 1947

A bill sponsored in the Senate by the Senate Committee on Armed Services, S. 1661, has passed the Senate and House, proposing to provide additional inducements to physicians, surgeons and dentists to make a career in the United States military, naval and public health services. Under this bill commissioned medical and dental officers of the Army, Navy and Public Health Service will be given extra pay at the rate of $100 per month in addition to their base and longevity pay, except that officers commissioned in the medical and dental corps of the Officers' Reserve Corps, the Naval Reserve, the National Guard, the Army of the United States or medical and dental officers of the Reserve Corps of the Public Health Service will receive the increase only provided that within a period of five years they volunteer and be accepted for extended active duty of one year or longer and then only during periods of volunteer service. Authority is also given the President to make original appointments to permanent commissioned grades, with rank not above colonel in the medical and dental corps of the Army and not above that of captain in the medical and dental corps of the Navy in such numbers as the needs of the services may require, the appointments to be made from qualified civilian doctors of medicine and dentists. The President has approved this legislation.

GOVERNMENT SERVICES

ARMY

GENERAL BLISS INSPECTS HOSPITALS IN GERMANY

The Surgeon General of the Army, Major Gen. Raymond W. Bliss, has just returned from inspecting American military medical establishments in Germany. The Surgeon General has in mind setting up a residency training program for young American Army doctors now stationed in Germany which would be not only of value to the officers but of help in the increasingly serious German medical situation. General Bliss pointed out that the U. S. Army has a hospital with 750 patients in the same immediate area in which is a German children's hospital with more than 500 patients. He feels that better advantage should be taken of the clinical opportunities present and that some kind of residency program should be worked out. There is in Germany apparently an extreme shortage of everything needed to care for the sick.

DEADLINE FOR REGULAR ARMY COMMISSIONS FOR NURSES

The War Department has announced that the time limit for applicants seeking Regular Army commissions in the Nurse Corps and the Women's Medical Specialist Corps has been extended to September 30. Applicants for the Regular Army Nurse Corps must be unmarried registered nurses with previous military service, have no dependents under 14 years of age, and be between the ages of 21 and 35 years of age. For commissions in the Medical Specialist Corps applicants must be in the 21 to 45 age group, unmarried and have no dependents under 14 years of age. Application forms may be secured at army hospitals, army headquarters, state and district nursing associations or from the Surgeon General's Office, Washington, D. C.

MORE NURSES NOMINATED FOR COMMISSIONS

President Truman sent to the Senate for confirmation the names of 427 army nurses who have been nominated for permanent commissions in the Regular Army Nurse Corps. On that list 120 were recommended for appointment as captains and 307 for appointment as first lieutenants. If and when confirmed by the Senate, the authorized strength of the new Regular Army Nurse Corps will be 500. The authorized strength has been set as 2,558.

RESEARCH ON HEPATITIS

The U. S. Army in Germany has taken over one of Hitler's "Youth Through Joy" hospitals at Bayreuth in Bavaria, which will be used as a research center for the study of infectious hepatitis. A laboratory for this research study has been set up in the University of Heidelberg. The study is being carried out under the direction of the Commission on Virus and Rickettsial Disease of the Army Epidemiological Board.

MEETING OF MEDICAL OFFICERS IN KOREA

The first periodic meeting of U. S. Army medical officers in Korea was held at the 34th General Hospital at Seoul, July 15. About one hundred officers attended. Among the papers read were the diagnosis and treatment of common dermatologic diseases by Capt. Woodrow W. Murphy of the 34th General Hospital, and rheumatic fever in Korea by Capt. Arnold G. Blumberg. The discussers were Capts. Lee Russell of the 377th Station Hospital and James H. Allison of the 382d Station Hospital. In addition to the scheduled program Dr. William McD. Hammon of the Army Epidemiological Board presented a film on arthropod borne virus encephalitides, with special emphasis on Japanese B encephalitis. The chairman of the scientific meeting was Major William B. Draper, chief of medical service, 34th General Hospital, who introduced Lieut. Col. John J. Marren, commanding officer of the hospital, and Col. William D. Willis, corps surgeon.

CIVILIAN PERSONNEL NEEDED FOR WORK IN JAPAN

The War Department is recruiting civilian personnel for work with the military government, Eighth Army, in Japan, and needs immediately the following competent personnel: a bacteriologist, senior chemist and assistant venereal disease control officer (M.D.), with annual salaries of $7,381.50; also a sanitary engineer at $6,127.50. Other positions of similar types frequently are available. Persons interested should write to the War Department Special Staff, Civil Affairs Division, Personnel and Training Branch, Washington 25, D. C.

HEALTH IN JAPAN

In his report to the War Department for the March-April period General MacArthur stated that the increase in malaria in the Ryukyus persisted with 8,432 cases reported, while the number of cases of trachoma and influenza in Okinawa decreased to 5,597 and 2,414 respectively. Meanwhile the training of nurses continued with fifty girls being selected for the first year nursing course at the three Okinawa hospitals. The March 1 census of the Ryukyus showed that 833,074 persons inhabited the islands. The number of Ryukyuans repatriated by April 27 totaled 207,967.

ARMY AWARDS AND COMMENDATIONS

Colonel Edward S. Murphy

The United States of America Typhus Commission Medal has been awarded to Col. Edward S. Murphy, M. C., A. U. S., of Missoula, Mont. The citation read as follows: As assistant surgeon, First Army, from March 6 to May 8, 1945 in Germany, he exhibited keen professional ability and untiring effort in connection with the work of the United States Typhus Commission in the investigation, prevention and control of the spread of the deadly disease among American troops and countless thousands of civilian personnel in the occupied area. His organization of efficient control groups and institution of prompt preventive measures were responsible for the low incidence of typhus in his command. Dr. Murphy has also been awarded the Bronze Star and the Purple Heart. He graduated from Creighton University School of Medicine, Omaha, in 1916 and entered the military service in the recent war in September 1942.

Captain Vincent A. Spinelli

The Army Commendation Ribbon has been awarded to Capt., later Major, Vincent A. Spinelli, M. C., A. U. S., now of White Plains, N. Y. The citation signed by Brigadier Malcolm C. Grow read in part as follows: Captain Spinelli is highly commended for outstanding performance of duty as convalescent services personal physician, AAF Convalescent Hospital, Fort Logan. During the period Jan. 24, 1945 to Sept. 19, 1945 as a personal physician to a group of convalescent patients he performed his duties in a most outstanding manner. The sincerity in which he cared for his patients contributed immensely to the high standards which his hospital maintained. Dr. Spinelli graduated from the New York Medical College, Flower and Fifth Avenue Hospitals, New York, in 1939 and entered the military service in June 1941.

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest: such as relate to society activities, new hospitals, education and public health. Programs should be received at least two weeks before the date of meeting.)

ARKANSAS

Reorganize Administration of Medical School.—In a reorganization of administration of the University of Arkansas School of Medicine, Little Rock, Dr. Henry C. Chenault, dean, has been made vice president of the university in charge of medical education and hospitalization, and Dr. Benjamin B. Wells, associate professor of medicine, has been appointed dean of the medical school. Dr. Chenault has served as dean since last October. Dr. Wells, a graduate of Baylor University College of Medicine, Houston, 1935, was associated with the Carnegie Institution, Washington, as an investigator, 1941-1942, before coming to the university. From 1936 to 1939 he was an instructor in physical chemistry at Baylor University College of Medicine. A plan has been advanced for the revision and expansion of the staff and departments of the medical school with the employment of full time personnel. All divisions will have permanent department heads and staffs who will continue to use the services of part time specialists. The plan was developed with the cooperation and in accordance with recommendation of the Arkansas Medical Society and national medical authorities, President Lewis W. Jones said. The reorganization will allow for the integration of premedical and medical education programs. Staff appointments and policies will be approved by the university president in contrast to the situation in past years, in which the medical school has been practically autonomous. Other objectives of the program include the development of postgraduate teaching in various specialties of medicine and surgery in cooperation with the Arkansas Medical Society, a postgraduate training program coordinated with the medical school leading to advanced degrees in basic sciences related to medical and surgical sciences, a cooperative program of specialty training in hospitals throughout the state and a nurses training school where students may obtain a bachelor degree in nursing.

COLORADO

State Medical Meeting at Denver.—The seventy-seventh annual session of the Colorado State Medical Society will be held at the Shirley-Savoy Hotel, Denver, September 17-20, under the presidency of Dr. Archie C. Sudan. Among others, the following out of state speakers are on the program:

James B. Brown, St. Louis, Neck Dissection for Metastatic Carcinoma.
Creighton Barker, New Haven, Conn., Objectives of Modern State Medical Societies.
J. William Hinton, New York, Acute Abdominal Pain: Its Surgical Significance.
Robert J. Crossen, St. Louis, Advances in Diagnosis and Treatment of Cancer of Uterus.
James B. Brown, St. Louis, Limitations and Possibilities in Plastic Surgery.
James J. Boyle, Washington, D. C., The Politicomedical Scene in Washington.
Emery A. Rovenstine, New York, The Influence of Anesthetic Agents on the Peripheral Circulation During Hemorrhage.
Lieut. Col. Michael Buscemi, M. C., Los Alamas, N. M., Role of Radioactive Isotopes in Clinical Medicine.

At the close of the scientific sessions each afternoon a question hour will be conducted with guest speakers and Colorado essayists available to answer questions from the audience. The house of delegates will meet Wednesday morning. All sports events will be conducted Wednesday afternoon. The Woman's Auxiliary will celebrate its silver anniversary September 18-20 with headquarters at the Albany Hotel. The annual banquet and dance will be held Saturday at 7:30 p. m.

DISTRICT OF COLUMBIA

George Washington Promotions.—George Washington University School of Medicine has announced the promotion of Dr. James W. Watts to a full professorship in neurologic surgery. Other promotions include those of Dr. Clayton B. Ethridge, who was made an associate clinical professor in medicine, Dr. John H. Lyons a clinical professor of surgery, Dr. Henry Rappaport a professorial lecturer of pathology, Ira R. Telford, Ph.D., an associate professor of anatomy and Carlton R. Treadwell, Ph.D., an associate professor of biochemistry.

GEORGIA

Seminar in Obstetrics.—At the University of Georgia School of Medicine, Augusta, an obstetric seminar will be held September 1-6 under the guidance of the directors of maternal and child health of Georgia and South Carolina, Dr. Guy V. Rice Jr., Albany, and Dr. Hilla Sheriff, Columbia, respectively. The lecturers will be seventeen specialists certified by the Board of Obstetrics and Gynecology. Two diplomates of allied specialties will also participate. Attendance will be limited to physicians of Georgia and South Carolina.

Poliomyelitis Conference at Warm Springs.—Marking the twentieth anniversary of the founding of Georgia Warm Springs Foundation, a three day clinical conference on diagnosis and treatment of poliomyelitis will be held at Warm Springs September 15-17. About twenty of the nation's authorities in the fields of neurology, pathology, pediatrics, orthopedics, physical medicine and internal medicine will present papers reviewing the advances in knowledge of poliomyelitis. The papers and discussions will constitute a new book on diagnosis and treatment of the disease for publication in 1948. Clinical demonstrations of modern methods of treatment will be given by the medical staff of the Warm Springs Foundation. Physicians interested in attending this conference should make inquiries to the Georgia Warm Springs Foundation, 120 Broadway, New York 5. A complete program of the meeting will be available on request.

MICHIGAN

Five Veteran Physicians Honored.—The St. Clair County Medical Society honored five "fifty year" physicians at its annual spring dinner meeting in St. Clair in June. They were Drs. James A. Attridge, Albert L. Callery, both of Port Huron; Aaron B. Armsbury, Marine City; Christopher McCue, Goodells, and William G. Wight, Yale.

Health Department Merger.—Lansing Health Department and the county health unit consolidated July 1, and authority over the Lansing group was transferred to the Ingham County board of supervisors. Dr. Roelof Lanting, director of the Lansing health department, became the director of the city-county unit. Under the merger, much of the duplication of effort in sanitary work is expected to be eliminated. The organization will also be entitled to larger state and federal aid since the merger. The health committee of the board of supervisors will act as a policy making authority for the time being.

NEW HAMPSHIRE

Eye Institute Closes.—The Dartmouth Eye Institute, Hanover, has terminated all clinical activities "because of an inability to provide a sound financial basis for future activities," the managing trustee, John Pearson, has announced. The clinic was established in 1921 when Professor Adelbert Ames Jr. undertook the study of problems of visual optics. The current work of Professor Ames in visible perception continues under the auspices of the Hanover Institute. Professor Ames, who once practiced law, has been research professor of physiologic optics since 1919. In 1921 he was a member of the committee on physiologic optics of the National Research Council. Professor Ames and his fellow worker Gordon H. Gliddon presented a paper on "Ocular Measurements" before the Section on Ophthalmology at the annual meeting of the American Medical Association in 1928 in Minneapolis, which paper was published in the transactions of the section.

NEW YORK

Postgraduate Instruction.—The Medical Society of the State of New York and the New York State Department of Health have arranged two programs of postgraduate instruction at the County Hospital, Cortland. Dr. Carl H. Greene, clinical professor of medicine, Long Island College of Medicine, Brooklyn, will speak on "Nephritis," September 19 at 8:30 p. m., and Dr. William Dock, professor of medicine at Long Island College of Medicine, on "Peptic Ulcer and Gastric Cancer," October 17 at 8:30 p. m. For the Broome County Medical Society, Dr. Franz Altmann, assistant clinical professor of otolaryngology, Columbia University College of Physicians and Surgeons, New York, will speak on "Ménière's Syndrome and Related Conditions" at the Binghamton City Hospital, November 11 at 8:30 p. m.

New York City

Mr. Rockefeller Gives Entire Block to Hospital.—Memorial Hospital for the Treatment of Cancer and Allied Diseases has received an entire block as a gift from John D. Rockefeller Jr. It is bounded by Second and Third avenues and 68th and 69th streets. The property has an estimated value of $3,500,000. In 1936 Mr. Rockefeller donated the block on which the hospital now stands.

Tuberculosis Survey Reveals Active Cases.—Community x-ray surveys conducted in Queensboro by the Queensboro Tuberculosis and Health Association revealed 13 active cases of tuberculosis. The annual report made June 21 stated that the association had x-rayed 30,707 persons from April 1946 to March 1947. The 13 patients with active tuberculosis were hospitalized through association workers.

To Lecture in South America.—Dr. Arthur W. Grace, professor of clinical dermatology and syphilology, Long Island College of Medicine, Brooklyn, left July 27 for a seven week lecture tour of South America, sponsored by the E. R. Squibb & Sons Inter-American Corporation and the Squibb Institute for Medical Research. Dr. Grace will discuss modern methods of diagnosis and treatment of skin and venereal diseases. He will visit hospitals and universities in six Latin American countries. A graduate of the University of London, England, Dr. Grace has been on the faculty of the Long Island College of Medicine since 1931. He is a former special consultant in venereal diseases to the United States Public Health Service and assistant attending physician to the New York Hospital.

NORTH DAKOTA

Dr. **Lawton Appointed Dean.**—Dr. Alfred H. Lawton, assistant professor of medicine and assistant professor of physiology and pharmacology at the University of Arkansas School of Medicine, Little Rock, since last September, has been appointed dean of the University of North Dakota, Grand Forks. Dr. Lawton, a native of Iowa, received his medical degree at Northwestern University Medical School, Chicago, 1941, interned at Passavant Memorial Hospital and held a residency at Henry Ford Hospital, Detroit. He has been an officer of the U. S. Public Health Service for four and one-half years, doing research at the National Institute of Health, Bethesda, Md.

OHIO

University Appointments.—Dr. Richard L. Meiling, formerly of Western Reserve University School of Medicine, Cleveland, has been appointed part time assistant professor in obstetrics and gynecology. He received his medical degree from the University of Munich. Dr. Meiling entered the army in 1940 and served as air evacuation officer and executive officer, Office of the Air Surgeon. He was awarded the Legion of Merit.

Appoint Five Department Heads at Cincinnati.—The University of Cincinnati College of Medicine has appointed Dr. Leon Goldman professor of dermatology and syphilology and director of the department at the Cincinnati General Hospital. Dr. Goldman graduated at the University of Cincinnati College of Medicine, 1929, where he was an assistant professor. He has served as a consultant to the United States War Department and to the National Research Council. Dr. Stanley Garber was appointed professor of obstetrics and director of the hospital's department of obstetrics. Dr. Garber has been an assistant professor. He is a graduate of Harvard Medical School, Boston, 1934, and has served on hospital staffs in Boston and Cincinnati. Dr. Donald J. Lyle was appointed professor of ophthalmology and director of the hospital's department of ophthalmology. A graduate of the University of Cincinnati College of Medicine, 1919, he has been on the staff of the Good Samaritan Hospital, Christ Hospital, Children's Hospital, Jewish Hospital and St. Mary's Hospital, and instructor in anatomy at the university. Dr. Henry M. Goodyear was appointed professor of otolaryngology and director of the hospital's department of laryngology. A graduate of Northwestern University Medical School, 1915, he has been a staff member of Cincinnati hospitals and an associate professor at the university. Dr. Charles D. Aring, formerly associate professor in neurology at the University of Cincinnati College of Medicine, has been appointed the new Albert Barnes Voorheis professor of neurology and director of neurology at the Cincinnati General Hospital, effective September 1. He received his medical degree at the university in 1930 and, following residencies in Boston hospitals, studied in England, Madrid and Breslau as a Rockefeller fellow in neurology. He was an associate professor of neurology from September 1936 to 1946 and returns to Cincinnati following a year as professor of neurology at the University of California, San Francisco.

OKLAHOMA

State Medical Election.—At the annual meeting of the Oklahoma State Medical Association last May Dr. Paul B. Champlin, Enid, became president, Dr. Clarence E. Northcutt, Ponca City, president-elect and Dr. Lewis J. Moorman, Oklahoma City, secretary.

New Orthopedic Society.—A group of orthopedists met in Tulsa last May to form the Oklahoma Orthopedic Society for the furtherance of orthopedic surgery in the state. It will hold two meetings a year. Membership in the American Board of Orthopedic Surgery makes a physician eligible to the society. Officers elected were Dr. Don H. O'Donoghue, Oklahoma City, president, Dr. Frank A. Stuart, Tulsa, vice president, and Dr. Samuel T. Moore, Oklahoma City, secretary-treasurer.

VIRGINIA

Director of Division of Cancer.—Dr. Mason Romaine, Petersburg, became director of the division of cancer control of the state health department July 1. A graduate of the University of Virginia Department of Medicine, Charlottesville, 1917, he was appointed full time public health officer in Petersburg in 1941, after having been associated with the department since 1922.

To Establish Mission Hospital in Korea.—Dr. Paul S. Crane, temporarily of Richmond, will leave shortly to establish a mission hospital in Korea under the auspices of the Southern Presbyterian Foreign Mission Committee. He will be joined by his father, Dr. J. C. Crane, who has spent many years as a Presbyterian missionary in Sunchon, Korea, site of the new hospital. Dr. Crane received his medical degree from Johns Hopkins University School of Medicine, 1944. Since his release from army service he has been gathering equipment and supplies for his undertaking.

Dr. Rudolph Holmes Gives Library to University.—Dr. and Mrs. Rudolph W. Holmes of Charlottesville, formerly of Chicago, have presented their library, chiefly on obstetrics and gynecology, to the University of Virginia Medical Library as a memorial to their respective mothers, Paula Wieser Holmes and Sarah Moore Baxter. The collection includes about 1,000 items dating from the early seventeenth century, comprising textbooks and monographs in English, German and French which offer a comprehensive historical survey of the subjects to recent times. Dr. Holmes formerly was professor of obstetrics and gynecology at Rush Medical College, Chicago, and since 1926 has been professor emeritus, University of Chicago, and more recently of the University of Illinois.

WEST VIRGINIA

First Mass X-Ray Program.—The first mass x-ray study in West Virginia is scheduled for Clarksburg beginning September 8. The program is being launched by the state health department as part of the campaign against tuberculosis. Efforts will be made to make roentgenograms of all persons over school age in Clarksburg. The direct sponsors will be the Harrison County Tuberculosis and Health Association. Participating agencies, besides the state health department, will include the Harrison County Medical Society and Auxiliary, local city and county health departments, the school board, nurse's aides and various service clubs and civic organizations. According to Dr. Newman H. Dyer, Charleston, state health commissioner, Clarksburg has been selected for this demonstration because it has one of the oldest local tuberculosis associations in the state and also has adequate facilities for diagnosis and follow-up. One of the seven permanent diagnostic clinics is located in that city. Volunteer workers will make a house to house canvass to obtain signatures of persons desiring to be examined. Besides offering free x-ray service to those desiring a check for tuberculosis, the state health department will give tuberculin tests to school children, and those with a positive reaction will have roentgenograms. If the survey at Clarksburg is successful, the state department plans to conduct similar studies in other West Virginia cities.

WYOMING

Dr. Yoder Appointed State Health Officer.—Dr. Franklin D. Yoder, Cheyenne, has been appointed director of the state department of public health. He will attend the University of California at Berkeley to take a course in public health administration and will assume his new position July 1, 1948. Dr. Yoder, who graduated from Northwestern University Medical School, Chicago, in 1939, served as a flight surgeon in the Army of the United States in the recent war.

GENERAL

College of Surgeons Clinical Congress.—The thirty-third annual clinical congress of the American College of Surgeons, including the twenty-sixth annual hospital standardization conference, will be held at the Waldorf-Astoria, New York, from September 8 to 12. The five day program features operative and nonoperative clinics in thirty-eight hospitals and scientific sessions in general surgery and surgical specialties. Dr. Allen O. Whipple, New York, will deliver the second Martin Memorial Lecture, on "The Qualifications of the Surgeon and the Cancer Problem." Dr. Arthur W. Allen, Boston, will be inaugurated president.

Scholarships for Training in Cerebral Palsy.—Scholarships totaling $5,000 a year for graduate study to aid the cerebral palsied were voted recently by the national council of Alpha Chi Omega, to be administered by the Cerebral Palsy Division of the National Society for Crippled Children and Adults, Inc. Graduate scholarships will be given to physicians, therapists and special education teachers. The allotment will cover maintenance and tuition for study at a recognized training center for a minimum of three months. Recipients will be selected by the National Society's cerebral palsy medical advisory committee and the Cerebral Palsy Division.

Special Society Elections.—At the annual meeting of the American Broncho-Esophagological Association Drs. Millard F. Arbuckle, St. Louis, was elected president, Paul H. Holinger, Chicago, secretary and Clyde A. Heatly, Rochester, N. Y., treasurer.——At the thirteenth annual meeting of the American College of Chest Physicians, June 5-8, the following physicians were elected: Major Gen. Shelley U. Marietta, (Ret.), Washington, D. C., president; Dr. Richard H. Overholt, Brookline, Mass., president-elect, and Dr. Benjamin L. Brock, Evanston, Ill., secretary-treasurer.——Officers of the American Neurological Association for 1947-1948 are Dr. George Wilson, Philadelphia, president; Dr. Harold G. Wolff, New York, first vice president; Dr. H. Houston Merritt, Bronxville, N. Y., secretary-treasurer.

Propose World Federation of Clinical Pathologists.—At a meeting of the European Association of Clinical Pathologists in Cambridge, England, June 27, this organization reconstituted itself as a world federation of constituent bodies. The meeting, which was attended by representatives of various countries, including France, Great Britain, Norway, Russia and Czechoslovakia, appointed a committee to call a meeting of delegates next November in Paris with the view of formulating a constitution and electing officers. The aims of the world federation, according to Dr. Sidney C. Dyke, F.R.C.P., are to develop further clinical pathology and its allied sciences, to have regard for the scientific and professional status of those engaged in its study and practice, and to foster international good will. Societies throughout the world are invited to communicate with the joint secretaries of the federation committee, either Dr. William H. McMenemey, Pathological Department, the Royal Infirmary, Worcester, or Dr. Joseph Ungar, Greenford, Middlesex, England.

Reopen Peiping Union Medical College.—The new board of trustees of the China Medical Board, Inc., which has been organized since termination of all relationship between the board and the Rockefeller Foundation, announced plans July 1 for reopening the Peiping Union Medical College. In a statement the board emphasized the objectives of the assumption of responsibility by the Chinese faculty and staff of the college and development in China of financial support. Although the Peiping Union Medical College and the China Medical Board, Inc., are separate and distinct corporate entities, the board owns the college buildings and equipment, which it leases for a nominal sum, but the trustees of the college are responsible for its administration and educational policy. The board will continue to support the college and its program. The Peiping Union College was founded in 1906 by a group of mission boards. The China Medical Board was created in 1915 as a division of the Rockefeller Foundation but became a separate organization in 1928. The decision to end all connection between the two was announced last January (THE JOURNAL, February 22, p. 564).

Annual Postgraduate Course in Chest Diseases in Chicago.—The American College of Chest Physicians will conduct its second annual postgraduate course in diseases of the chest September 15 to 20 at the Municipal Tuberculosis Sanitarium, Chicago. The out of state participants include Andrew L. Banyai, associate clinical professor of medicine, Marquette University School of Medicine, Milwaukee; Alvan L. Barach, associate professor of clinical medicine, Columbia University College of Physicians and Surgeons, New York; Alvis E. Greer, professor of clinical medicine, Baylor University College of Medicine, Dallas; John B. Grow, thoracic surgeon, National Jewish Hospital, Denver; Milton I. Levine, assistant professor of clinical pediatrics, Cornell University Medical College, New York; Jay A. Myers, clinical professor of medicine and public health, University of Minnesota Medical and Graduate Schools; George G. Ornstein, associate professor of medicine, New York Medical College, Flower and Fifth Avenue Hospitals, New York; J. Winthrop Peabody, professor of diseases of the respiratory system, Georgetown University School of Medicine, Washington, D. C.; Karl H. Pfuetze, medical director, Mineral Springs Sanatorium, Cannon Falls, Minn., and Oscar A. Sander, studies in occupational diseases and industrial case findings.

Prevalence of Poliomyelitis.—Reports of cases of poliomyelitis for the periods indicated have been received from the division of public health methods, U. S. Public Health Service:

Division and State	Week Ended Aug. 2, 1947	Week Ended Aug. 3, 1946	Week Ended Median, 1942-1946	Total to Aug. 2, 1947	Total to Aug. 3, 1946	Total * March 16-Aug. 2, 1947	Total * March 17-Aug. 3, 1946
New England:							
Maine	0	1	1	7	4	4	4
New Hampshire	1	12	1	6	39	2	38
Vermont	1	1	1	10	10	2	6
Massachusetts	14	11	11	33	23	26	19
Rhode Island	7	0	0	20	0	17	0
Connecticut	3	0	9	13	29	10	21
Middle Atlantic:							
New York	22	43	43	147	223	111	190
New Jersey	2	14	14	32	54	26	48
Pennsylvania	10	9	9	59	62	45	50
East North Central:							
Ohio	7	44	12	63	155	53	140
Indiana	9	11	5	34	48	18	43
Illinois	19	117	26	97	327	77	319
Michigan	14	46	7	62	93	38	85
Wisconsin	3	30	3	29	72	5	59
West North Central:							
Minnesota	9	257	6	49	623	36	622
Iowa	5	50	1	32	123	24	114
Missouri	4	77	4	39	198	29	191
North Dakota	2	31	0	23	49	18	49
South Dakota	0	23	0	2	47	0	47
Nebraska	7	37	3	53	108	46	107
Kansas	1	80	5	30	206	12	202
South Atlantic:							
Delaware	2	2	2	7	4	7	4
Maryland	1	2	2	19	19	13	17
District of Columbia	0	2	2	3	4	1	3
Virginia	2	12	12	29	35	19	29
West Virginia	0	5	5	9	20	5	17
North Carolina	4	6	5	35	48	20	41
South Carolina	0	1	2	9	16	8	13
Georgia	2	8	5	29	74	22	66
Florida	2	17	1	55	399	30	350
East South Central:							
Kentucky	3	3	8	20	43	19	40
Tennessee	1	10	10	35	39	23	30
Alabama	3	14	4	27	200	14	197
Mississippi	0	9	2	23	104	6	87
West South Central:							
Arkansas	4	30	4	31	121	21	109
Louisiana	0	20	4	38	169	20	150
Oklahoma	1	28	14	24	131	13	125
Texas	8	43	38	105	547	80	519
Mountain:							
Montana	1	7	0	5	42	3	26
Idaho	5	3	0	30	6	20	6
Wyoming	0	6	0	6	20	3	19
Colorado	3	63	5	25	289	20	288
New Mexico	1	9	2	10	43	7	42
Arizona	2	9	1	15	38	12	35
Utah	0	2	2	6	20	1	14
Nevada	0	1	0	0	1	0	1
Pacific:							
Washington	5	13	5	35	89	27	56
Oregon	1	5	5	18	25	13	21
California	28	60	18	467	411	318	324
Total	219	1,284	...	1,955	5,450†	1,344	4,983
Median, 1942-1946	...	...	474	2,913		2,516	

* Last two columns show reported incidence since approximate seasonal low week (week ended between March 15 and 21).
† Figures changed by corrected reports.

CORRECTION

Epinephrine for Bandl Ring Contraction.—In the answer to the query and minor note in THE JOURNAL, July 12, 1947, page 985, the metric equivalent in the parenthesis for 6 to 8 minims should have been given as 0.4 to 0.5 cc.

Deaths

Edward Robinson Baldwin ✠ Saranac Lake, N. Y., died May 6, aged 82, of bronchopneumonia. Born in Bethel, Conn., Sept. 8, 1864, Dr. Baldwin graduated at Yale University School of Medicine, New Haven, in 1890 and served an internship at the Hartford Hospital before beginning practice at Cromwell, Conn., in 1891. For many years he was associated with the Saranac Laboratory, where in 1892 he became an assistant and later director, serving until 1926. He had been a trustee and since 1916 chairman of the executive committee of the Trudeau Sanatorium, its vice president from 1916 to 1934 and honorary president since 1945. Dr. Baldwin instituted the Trudeau School of Tuberculosis in 1916 and was for many years director of the Trudeau Foundation. He was a past president of the American Climatological and Clinical Association and of the National Tuberculosis Association, a member of the Association of American Physicians and the American Society for Clinical Investigation, the American Association of Pathologists and Bacteriologists and the New York Academy of Medicine, and honorary life member of the Tuberculosis Society of Scotland. He was president of the Saranac Lake Board of Health from 1898 to 1901 and then for many years was president of the Reception Hospital for Tuberculosis. In 1918 he was contract surgeon for the tuberculosis consulting examination board at Camp Devens and a delegate of the League of Red Cross Societies to the 1919 conference in Cannes, France. At the time of his death he was a trustee of the Saranac Lake General Hospital. In 1916 with the late Dr. Walter B. James he inaugurated the Edward Livingston Trudeau Foundation, which engaged in tuberculosis research and teaching. In 1920 he served on the medical advisory board of the U. S. Public Health Service and from 1930 to 1940 on the consulting medical board of the U. S. Veterans Bureau. He had been a member of the tuberculosis committee of the New York State Health Commission since 1931, a member of the Saranac Lake School Board District No. 1, and director of the Adirondack National Bank. Dr. Baldwin was awarded the honorary degree of master of arts from Yale in 1914 and doctor of science from Dartmouth in 1937. In 1927 the National Tuberculosis Association awarded him the Trudeau Medal. In 1936 he received the Kober Medal from the Association of American Physicians. He was editor emeritus of the *American Review of Tuberculosis*, author of many scientific papers on tuberculosis, co-author of "Tuberculosis, Bacteriology, Pathology and Laboratory Diagnosis" and a contributor to Osler's System of Medicine.

Ernest Granville Crabtree ✠ Boston; born in Zanesville, Ohio, 1883; Harvard Medical School, Boston, 1914; specialist certified by the American Board of Urology, Inc.; instructor in urology at the Harvard Medical School, Courses for Graduates; member of the New England Obstetrical and Gynecological Society, New England Surgical Society, American Association of Genito-Urinary Surgeons and the American Urological Association, of which he was president-elect; past president of the Massachusetts Society for Social Hygiene; fellow of the American College of Surgeons; served with the British army during World War I; on the staffs of the New England Baptist, Beth Israel and Boston Lying-In hospitals in Boston and the Newton-Wellesley Hospital in Newton; died in Sharon, Vt., May 30, aged 63, of coronary disease.

William West Sutherland ✠ Ridgewood, N. J.; born in Jackson, Mich., Sept. 10, 1898; University of Oregon Medical School, Portland, 1925; specialist certified by the American Board of Obstetrics and Gynecology, Inc.; served during World War I; during World War II served in the Pacific for twenty months in the medical corps of the U. S. Naval Reserve and had been medical officer of service squadron 12, Pacific Fleet, which saw action in the Mariannas, Palau, Iwo Jima and Okinawa; held the rank of commander when his service terminated in March 1946; at one time examining physician for a local draft board; for many years affiliated with the Paterson (N. J.) General Hospital, where he served as president of the medical board; died May 29, aged 48, of heart disease.

George Loring Tobey Jr., ✠ Boston; born in Lancaster, Mass., June 3, 1881; Harvard Medical School, Boston, 1903; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and formerly vice president; member, past president and vice president of the American Otological Society; member of the American Laryngological Association, American Laryngological, Rhinological and Otological Society and the New Ergland Otological and Laryngological Association; fellow of the American College of Surgeons; served during World War I; consulting surgeon at the Massachusetts Eye and Ear Infirmary; died May 20, aged 65, of valvular heart disease.

Franklin Harold Crail ✠ Las Vegas, N. M.; born on June 28, 1880; Northwestern University Medical School, Chicago, 1907; fellow of the American College of Surgeons; past president of the New Mexico Medical Society; for many years president of the board of education; served during World War I and on the medical examining selective service board during World War II; founder and first president of the Rotary Club; at one time superintendent of the New Mexico State Hospital; on the staffs of the Las Vegas and St. Anthony's hospitals; died in Forrest City, Ark., May 22, aged 66, of coronary heart disease.

John Darrington ✠ Yazoo City, Miss.; born in Wilkinson County, March 6, 1870; Medical Department of Tulane University of Louisiana, New Orleans, 1892; member of the House of Delegates of the American Medical Association in 1906 and 1907; past president of the Mississippi State Medical Association, Yazoo County Medical Society, Tri-State Medical Association, Central Medical Society and the Southeastern Surgical Congress; member of the state board of health from 1907 to 1915 and again from 1929 to 1935; affiliated with the King's Daughters Hospital; died May 19, aged 76.

Peter Felix Carlucci ✠ Detroit; University of Pennsylvania Department of Medicine, Philadelphia, 1907; affiliated with St. Mary's Hospital; resident physician, Tuller Hotel; died May 14, aged 64, of heart disease.

William Warren Cowgill, Shaker Heights, Ohio; University of Pennsylvania Department of Medicine, Philadelphia, 1904; died June 6, aged 67, of cerebral hemorrhage.

William Edward Durr, Glencoe, Ohio; Ohio Medical University, Columbus, 1905; member of the American Medical Association; died in the Ohio Valley General Hospital in Wheeling, W. Va., May 16, aged 70, of chronic glomerulonephritis.

Lionel Sinclair Luton ✠ St. Louis; Rush Medical College, Chicago, 1901; fellow of the American College of Physicians; served during World War I; died May 16, aged 71, of coronary thrombosis.

Bernard John Meirink, Germantown, Ill.; Washington University School of Medicine, St. Louis, 1899; for many years mayor; served on the staff of St. Joseph Hospital in Breese; died in Manchester, Mo., May 13, aged 74, of cerebral hemorrhage and hypertension.

Harry J. Newell ✠ Alexandria, Neb.; John A. Creighton Medical College, Omaha, 1903; on the staff of the York (Neb.) General Hospital, where he died May 4, aged 75, of carcinoma of the liver.

William Thurston Patch, Boston; University of the City of New York Medical Department, New York, 1890; member of the American Medical Association; died recently, aged 86, of bronchopneumonia.

Richard Reeser ✠ Columbia, Pa.; Jefferson Medical College of Philadelphia, 1896; past president of the Lancaster County Medical Society; served during World War I; on the staff of the Columbia Hospital; died May 30, aged 72, of coronary thrombosis.

Frank Rose, Spokane, Wash.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1901; member of the American Medical Association; served during World War I; died in the Veterans Administration Facility in American Lake April 4, aged 77, of bronchopneumonia.

Morton Maxwell Small, Waterville, Maine; Medical School of Maine, Portland, 1901; member of the American Medical Association; died April 23, aged 67 of uremia, cerebral hemorrhage and nephritis.

Clarence Nelson Smith, Glen Elder, Kan.; Kansas City (Mo.) Medical College, 1905; died April 9, aged 73, of diabetes mellitus.

Vere Treichler ✠ Elizabethtown, Pa.; Jefferson Medical College of Philadelphia, 1905; affiliated with the Philadelphia Freemasons' Memorial Hospital, where he died April 28, aged 67, of angina pectoris.

John Edward Welsh, Brimfield, Ill.; St. Louis University School of Medicine, 1920; member of the American Medical Association; served during World War I; examining physician for the county draft board during World War II; died in St. Francis Hospital in Peoria May 4, aged 64, of thyrotoxicosis.

Herbert Carlton Woods, Tama, Iowa; the Hahnemann Medical College and Hospital, Chicago, 1894; member of the American Medical Association; died in the Deaconess Hospital, Marshalltown, April 5, aged 77, of prostatic hypertrophy.

Foreign Letters

PARIS

(From Our Regular Correspondent)

July 15, 1947.

The New Medical Code

For some time the Order of Doctors has been preparing a code of Deontology, which has lately been modified by the Council of State, approved by the government and published in the *Journal officiel*. The code contains seventy-nine articles concerning the practice of medicine and the relations of doctors one with another.

General Duties of Doctors

The code emphasizes the four principles, which are, by tradition, those of French medicine: (1) free choice of the doctor by the patient, (2) liberty of prescription by the doctor, (3) direct agreement of the doctors and the patients as regards fees and (4) direct payment of the fees by the patient to the doctor. These principles are imperative for every doctor save when their observance is incompatible with legal rules. All publicity and personal propaganda of a commercial character are forbidden to doctors, also all payments or acceptance of monies between practitioners and all commissions whatever and all jobbery between doctors, pharmacists, medical auxiliaries or any other person. It forbids doctors any outside activity incompatible with the professional dignity and also the use of a political mandate or of an administrative function for professional ends to increase the number of their clients. The doctor must not meddle with family affairs.

Duties to Patients

In case of public danger, a doctor shall not leave his patients save by formal written order from competent authorities. The code emphasizes that, even when he is alleviating suffering, the primordial care of the doctor must be the preservation of human life. Except for emergencies, a doctor retains always the right to refuse his attendance on personal or professional grounds. While refusing to continue in attendance, the doctor must enforce the respect for the rules of hygiene and prophylaxis.

A special article deals with therapeutic abortion, which can be done when the life of the mother is in serious danger. In such cases the doctor must abide by the prescriptions of article 87 of the Decree of the 29th of July 1939, which prescribes the examination of the expectant mother by three doctors, who must draw up a statement giving the reasons for the abortion and address it by registered post to the president of the district council of the region to which they belong. By another article the doctor is prohibited from reducing his fees in order to compete with his colleagues, but each doctor can give gratuitous attendance whenever his conscience prompts him to do so. It is forbidden to make a contract providing for a lump sum taking into consideration the duration or the efficiency of a treatment, except in the case of childbirth, surgical operation or physical therapy. The acceptance, the solicitation or the offer of a share of his fees, even if it does not materialize, constitutes a serious professional dereliction.

Duties Concerning Social Medicine

In several of its articles the code emphasizes the duty for doctors to give their full help to the services of social medicine and to collaborate in the work of the public authorities. The code also provides that the practice of medicine in the service of an enterprise, a collectivity or a private institution must be the subject of a written contract, which must be previously submitted to the departmental council of the order; doctors under a status established by the public authority are not subject to these dispositions. The doctor working in the preventive medicine service must refer all persons recognized as ill to practitioners. Except in urgent cases, doctors are forbidden to be at the same time the controlling and the treating doctor. Controlling doctors must not interfere with the treatment; in case of disagreement with the treating doctor, they must advise the latter personally.

Fraternal Duty

The code provides that, in the event of professional dissension between two colleagues and the impossibility of reconciliation, the president of the district council of the order is to be advised. In principle, a doctor must have only one office. Doctors are forbidden to have a colleague running another office for their account. As from the 1st of January 1951, a doctor must not establish himself in a building in which one of his practicing colleagues is located without the latter's agreement or, failing this, without the authorization of the district council of the order, except for specialists practicing different specialties.

All doctors, being members of the order, are subject to the code of deontology. They must assert that they have studied it and that they pledge themselves under oath and in writing to abide by it. Infractions of the code come under the disciplinary jurisdiction of the order. Similar codes are being prepared for dentists, chemists and midwives.

Bacteriostasis and Bacteriolysis of Mycobacterium Tuberculosis by Clitocybine B

A new antibiotic, clitocybine B, discovered by Professor Charles Hollande of the Montpellier Faculty of Pharmacy, has already been mentioned in the Paris letter. At a recent meeting of the Academy of Sciences in Paris Hollande presented his latest research on clitocybine. It is clitocybine B which has this action on the bacillus of tuberculosis. Hollande has been able to grow it in special culture mediums and under particular conditions; the other mycelia and cacophores, though exerting action on staphylococci, streptococci and meningococci, do not contain clitocybine B. As a bacterial test, the author has employed human bacilli of tuberculosis and has seen in vitro the bacteriostatic and bacteriolytic effects of clitocybine B. Guinea pigs inoculated with an emulsion of Mycobacterium tuberculosis, which emulsion had been in contact during twenty-four hours with clitocybine B, presented no organs or glands attacked two months and a half afterward at the necropsy, whereas test guinea pigs, inoculated at the same period, presented infected organs and caseous glands. Purified clitocybine B is not toxic for guinea pigs.

Miscellaneous

According to a communication of Charles Picard to the Académie des Inscriptions et Belles Lettres, a monument to Hippocrates has lately been discovered at Ostia, Italy. It is a new picture of Hippocrates representing a personage of entirely different aspect from any known up to now. The monument proves that this learned man was already known in Athens.

Professor Jacques Tréfouel, director of the Paris Pasteur Institute, has been elected a member of the Academy of Sciences.

Correspondence

EOSINOPHILIC GRANULOMA OF BONE

To the Editor:—The readers of the editorial comment "Eosinophilic Granuloma of Bone" (THE JOURNAL, April 26, p. 1284) may become confused on the issue of whether "eosinophilic granuloma of the bone" is a newly discovered disease entity or whether it is the monosymptomatic form of a systemic disorder formerly described under different designations as "Schüller-Christian's disease" by Rowland in 1928, or "lipid granulomatosis" by Chester in 1930 and by Fraser in 1934 and as "essential xanthomatosis of the normocholesteremic type" by Thannhauser and Magendantz in 1937. A similar comment has been made by Albert Weinstein, H. C. Francis and B. F. Sprofkin (Eosinophilic Granuloma of Bone, *Arch. Int. Med.* **79**: 176 [Feb.] 1947).

A. Schüller (Ueber eigenartiger Schadeldefekte im Jundalter, *Fortschr. a. d. Geb. d. Röntgenstrahlen* **23**:12, 1915-1916) described "peculiar defects of the membraneous bones of the skull," referring later (Ueber ein eigenartiges Syndrom von Dyspituitarismus, *Wien. med. Wchnschr.* **71**:510, 1921) to "a peculiar syndrome of dyspituitarism." H. A. Christian (Defects in Membranous Bones, Exophthalmos and Diabetes Insipidus, in Contributions to Medical and Biological Research **1**:390, New York, Paul B. Hoeber, 1919; *M. Clin. North America* **3**:849 [Jan.] 1920) called attention to a clinical syndrome consisting of defects in membraneous bones, exophthalmos and diabetes insipidus." A. Hand (Polyuria and Tuberculosis, *Arch. Pediat.* **10**:673, 1893) had already observed a case which belonged in this group in 1893 but classified his observation as "polyuria and tuberculosis." After the syndrome had been clinically established, the pathologist R. S. Rowland (Xanthomatosis and the Reticuloendothelial System, *Arch. Int. Med.* **42**:611 [Nov.] 1928; *Ann. Int. Med.* **2**:1277 [June] 1929) demonstrated that the histologic lesions characteristic of Schüller-Christian's syndrome consist of reticulum cells and histiocytes, cholesterol-containing "foam cells" and elements of acute inflammation like eosinophils, round cells and polynuclear elements. Rowland considered the development of "foam cells" as characteristic of the lesion as had been previously suggested by the dermatologists F. D. Weidman and Walter Freeman (Xanthoma Tuberosum, *Arch. Dermat. & Syph.* **9**:149 [Feb.] 1924) on the basis of two autopsies of cases with lesions of the skin, central nervous system and other organs. In his pioneer work on the histology of Schüller-Christian's syndrome Rowland had already described the occasional involvement of the lung and supplemented the description of the pathologic changes in the lung with characteristic x-ray pictures, as others did later. Chester (Ueber Lipoidgranulomatose, *Virchows Arch. f. path. Anat.* **279**:561, 1930) demonstrated the granulomatous nature of the lesions and classified the disease as "lipid granuloma." The most complete histologic description of solitary bone lesions, supported by excellent photomicrographs in color, are found in the paper "Skeletal Lipoid Granulomatosis" by J. Fraser in 1934-1935. Fraser (Lipoid Granulomatosis of the Bones, *Brit. J. Surg.* **22**:800 [April] 1935) had already called attention to the endothelial proliferation, the accumulation of eosinophilic cells and the presence of giant cells in the earlier stages of the lesion in "lipoid granuloma." S. J. Thannhauser and Heinz Magendantz (The Different Clinical Groups of Xanthomatous Diseases, *Ann. Int. Med.* **11**:1662 [March] 1938. Thannhauser, S. J.: Lipidoses, Oxford University Press, 1940) demonstrated, on the basis of numerous clinical observations of cases of xanthomatous diseases of heterogeneous etiologies, that the cases of Schüller-Christian's syndrome and those of generalized lipoid granulomatosis showed normal cholesterol content of the serum in contrast to other groups of xanthomatous disease with hypercholesteremia. For this reason they used the name "essential xanthomatosis of the normocholesteremic type" for Schüller-Christian's syndrome and the generalized form of "lipoid granulomatosis." The cholesterol content of the tissues of this disorder in its xanthomatous phase is ten to twenty times higher than in normal tissues, while the cholesterol level of the serum remains normal. These authors, therefore, contended that the cholesterol accumulation in the xanthomatous cells in this disorder is not the result of cholesterol infiltration from the blood stream but is caused by new formation of cholesterol within those cells which gradually develop into xanthoma cells ("foam cells"). Thannhauser and Magendantz showed in their clinical material and in the cases reported in the literature that various organs (skin, "disseminata" type of xanthoma, osseous system, dura, brain, lung, pleura, liver, spleen and lymph nodes) may be involved singly or in various combinations in the systemic disease under discussion.

Louis Lichtenstein and H. L. Jaffe reported in a histologic study cases of solitary bone lesions which they designated as "eosinophilic granuloma of bones" (*Am. J. Path.* **16**:595 [Sept.] 1940). They apparently believed at this time that this type of solitary bone granuloma was a disease not before described. They were apparently not familiar with the exhaustive histologic description by J. Fraser in 1934 of several such cases ("skeletal lipoid granulomatosis") or with case 20 published in the article "Different Clinical Groups of Xanthomatous Diseases" by Thannhauser and Magendantz.

It was not until the studies of Sidney Farber and his coworkers (Eosinophilic or Solitary Granuloma of Bone, *J. Bone & Joint Surg.* **24**:499 [July] 1942; Eosinophilic Granuloma of Bone; Schüller-Christian's Disease, *Acta. med. Scandinav.* **118**: 292, 1944) (The Nature of "Solitary Eosinophilic Granuloma" of Bone, *Am. J. Path.* **17**:625 [July] 1941; The Nature of Some Diseases Ascribed to Disorders of Lipid Metabolism, *Am. J. Dis. Child.* **69**:350 [Nov.] 1944) and of J. E. Holm, G. Teilum and E. Christensen that the designation "eosinophilic granuloma" was applied not only to solitary bone lesions but also to those of "Schüller-Christian's syndrome" as well as to the generalized lesions in other organs of the group formerly classified as "lipoid granulomatosis" or clinically designated as "essential xanthomatosis of the normocholesteremic type." Through the microscopic studies of Teilum and his co-workers it was demonstrated that the natural history of such an "eosinophilic granuloma" comprised the following phases:

1. A proliferative phase in which histiocytic proliferation associated with accumulation of eosinophilic leukocytes is observed. (See also Fraser.) In this phase there is no evidence of "foam cells."
2. A granulomatous phase with increase of blood vessels and fibrils, reticular cells and histiocytes, eosinophils and giant cells ('Tquton cells') and incipient lipoid phagocytosis.
3. A xanthomatous phase with nests and isolated foam cells.
4. A fibrous stage considered as a healing phase.

These four phases often show no strict demarcation during the course of the disease, and the histologic features of these four stages may overlap considerably during the course of the disease. It is evident from the microscopic studies of Teilum as well as of Farber that solitary "eosinophilic granuloma" is the monosymptomatic early stage of a systemic disease designated by Chester as well as by Fraser as "lipoid granulomatosis," by R. S. Rowland as "Schüller-Christian's syndrome" and by Thannhauser and Magendantz from the clinical point of view as "essential xanthomatosis of the normocholesteremic type."

The paper of Jaffe and Lichtenstein has caused considerable misunderstanding about the classification of the disease under discussion, as is seen in recent publications and in your editorial comment. The earlier authors as well as Lichtenstein and Jaffe refer to the same disease. The designation of the disease under discussion as "eosinophilic granuloma" is incomplete and therefore misleading, since "eosinophilic granuloma" is not a disease entity but only a phase in the histologic aspect

of a distinct clinical syndrome. The xanthoma cell formation in the later phases of the lesions is as characteristic of the disease as the reticulohistiocytic proliferation and the accumulation of eosinophils in its earlier phases. If one does not prefer to use the older names "Schüller-Christian's syndrome" or "lipoid granulomatosis" or "normocholesteremic xanthomatosis" one should think of a classification which at least refers to the principal two histologic phases of the granuloma, namely the proliferative and eosinophilic phase and the xanthomatous phase. The designation of the localized and systemic disorder as "eosinophilic xanthomatous granuloma" seems to be more appropriate even if it does not embrace the reticulohistiocytic proliferation of the early lesion. Such a name would also prevent further misunderstanding in the conception and classification of this disorder.

So-called eosinophilic granuloma of bone is certainly not a newly discovered disease entity but is the monosymptomatic form of a well known systemic granulomatous disorder in which histiocytes, eosinophils and xanthoma cells are observed in the lesion at different phases.

S. J. THANNHAUSER, M.D.,
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Boston.

Medical Motion Pictures

FILM REVIEWS

NEW MOTION PICTURE ADDED TO A. M. A. FILM LIBRARY

The Medical Motion Picture—Its Development and Present Application. 16 mm., color, sound, 1,100 feet (one reel). Showing time thirty minutes. Produced for the American Medical Association in 1947 by Audio Productions, Inc., New York. Technical adviser Ralph P. Creer. Procurable on loan from Committee on Medical Motion Pictures, American Medical Association, Chicago 10.

Consisting of excerpts from several films made prior to and during World War I, this motion picture was prepared especially for the Centennial Session of the American Medical Association held in June in Atlantic City. Included are the first surgical motion picture made on 16 mm. film and modern technics such as animation, microcinematography, endoscopic photography and moving x-rays. The final sequence provides a look into the production of good teaching films. This sequence is illustrated by a case of cancer of the thyroid with metastasis to the thigh, which was treated with radioactive iodine. The use of the Geiger counter is demonstrated.

A detailed review will be published in a subsequent issue of THE JOURNAL.

The Air We Breathe. 16 mm., black and white, sound, 1,100 feet (one reel). Showing time thirty minutes. Produced in 1945 by Wilding Pictures, Inc. Procurable on loan from Mine Safety Appliances Company, Braddock, Thomas and Meade streets, Pittsburgh 8.

This film briefly illustrates the history of the search for a safe and satisfactory industrial breathing mask. As the film progresses, a central teaching theme is developed in which it is stressed that the air we breathe must be as safe as the food we eat. Dusts, fumes, gases and mists are illustrated in a clear and simple manner. The film then takes one into the long sustained effort put forth by the Mine Safety Appliances Company to develop an industrial breathing mask worthy of official approval by the United States Bureau of Mines. "Dustofol" is shown undergoing the various severe tests which the Bureau of Mines makes prior to granting an approval. Masks of different types constructed for specific purposes are illustrated, as are proper methods of applying, wearing, cleaning and maintenance.

This film may be classified as teaching in character, with a minimum of commercialism. It will probably be best received by groups of foremen, safety classes and shop safety councils. The photography is excellent.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Medical Service Corporations: Liability, as Insurer, for Services of Special Nurse.—The plaintiffs sued to recover from the defendant King County Medical Service Corporation for a special nurse's services rendered during the hospitalization of the plaintiff wife in the defendant Seattle General Hospital and for other relief. The defendant hospital filed a cross complaint for the amount of the hospital bill. From judgments in favor of the plaintiffs, the defendants appealed to the Supreme Court of Washington.

At approximately 7:30 a. m. on the date of the accident the plaintiff wife, an elevator operator in the Chamber of Commerce Building at Seattle, entered that building with her husband, who was employed as its building superintendent, preparatory to commencing her work. Her husband was to take her in the elevator to the third floor, where she was to prepare for work and take over the operation of the elevator at 7:45 a. m. In the morning darkness, her husband opened the door of the elevator shaft. The elevator car was not at the lobby level, but the plaintiff wife, believing it to be there, stepped through the door and fell about 6 feet to the bottom of the shaft, sustaining the injuries which form the basis of the controversy herein.

For some time prior to the date of the accident the Seattle Chamber of Commerce had been a party to a contract with the defendant, King County Medical Service Corporation, which had previously entered into a separate contract with the Seattle General Hospital. This contract set forth that the Service Corporation had arranged with certain hospitals to furnish necessary hospital and nursing services to employees of the Chamber of Commerce. The employees were to pay a certain sum of money each month to the Service Corporation, which would in turn pay to any hospital furnishing services the amount of the bill. Among other things, the contract provided:

> 8. The medical director of the company, who is hereinafter referred to as the "medical director," or any physician whom he may designate, shall have the exclusive and absolute right to determine whether any patient is entitled to treatment, and if so, to what treatment, and any such determination made in good faith shall be deemed and held to be conclusive and binding upon the company, the patient, his heirs, executors, administrators and dependents and upon the employer if the employer be interested, and upon those offering said services. . . .

The hospitals cooperating with the plan agreed to "furnish to the patients described in the attached agreement such hospital and nursing services as may be reasonably required and authorized by the medical director of the company in the treatment of any injury or sickness which is covered by the service of the members of the King County Medical Service Bureau under the attached agreement." It was also agreed that the monies collected by the company together with certain payments to be made by patients "shall, in so far as the patients are concerned, be in full compensation of the services which are hereby offered by such hospitals and that when such sums are paid to the company the hospitals shall be bound to render to such individuals, groups or employees the services herein enumerated and that, in the event of the failure of the Company to pay said sums to the hospitals, then the hospitals shall look only to the Company for said sums and that the receipts of the Company to such individuals, groups or employees shall be binding upon the hospitals."

Medical treatment for the plaintiff wife's injuries was rendered by Dr. Smith, and hospitalization was furnished by the defendant Seattle General Hospital. Special nurses were employed by the plaintiffs. Dr. Smith at first assumed that the plaintiff wife was covered by the workmen's compensation act but later was notified by the Department of Labor and Industry that she did not come within its terms. Dr. Smith then assumed, from information given to him by the plaintiff wife and her husband, that she was covered by the Service Corporation contract but, at some time during the period of his treatment, was orally informed by the medical director for the Service Corporation

that the Service Corporation had refused to assume liability for the plaintiff's bills. Dr. Smith, however, continued to treat her.

The defendant first contended that the plaintiff's action could not prevail because of the finding of Dr. Ostrom, medical director for the Service Corporation, that she had been injured while in the course of her employment. It was the defendant's claim that the Service Corporation's medical director had unrestricted authority under paragraph 8 of the medical aid contract to determine whether or not a member employee comes within its terms so as to be entitled to medical and hospital services. We believe, said the court, that the medical director of the Service Corporation had no authority to determine whether or not plaintiff's injuries were sustained in the course of her employment. This is a legal question which often presents serious difficulties. Considerable judicial opinion and editorial subject matter has been written in an effort to lay down an understandable rule determining whether one is or is not "injured in the course of employment." The Supreme Court then held that plaintiff's injuries were not sustained while she was in the course of her employment as an elevator operator but while she was an invitee entering the building preparatory to commencing her employment as an elevator operator and that the defendant's medical director was in error in refusing to certify her as one entitled to physician, nurse and hospital care.

The Service Corporation next contended that liability could not attach to it for the reason that it was merely an agent of the several contracting parties and beneficiaries and not an insurer or guarantor of performance of the contract. The court said that the authority reserved to the Service Corporation was to make final decisions. This made the Service Corporation, not an agent of, but a co-principal with, the physicians, hospitals and employers, as contracting parties with the employee. The predominant purpose of the Service Corporation, as evidenced by paragraph 8 of its contract with the employers, said the court, is to control the business which its contract promotes and provides for, namely, the rendering of service to members and the collection of fees or premiums from such members in consideration therefor. The Service Corporation alone, of all the parties to the agreement, has the highest degree of exclusive control and authority over the business contemplated by the terms of the respective agreements. When a person styling himself as an agent is named contracting party and reserves to himself the exclusive and binding authority to decide all questions presented by the contract, and when the exercise of such authority is, by express provision, made binding upon all parties to the contract, then, certainly, he is not an agent but is, in fact and in law, the principal and the moving spirit in control of every phase of the business contemplated by the contract. Continuing, the court said, there is no evidence of intention to delegate authority or control to the Service Corporation, either from the Seattle Chamber of Commerce in the standard group medical contract or from the Seattle General Hospital in the Hospital Service agreement. On the contrary, control, power and authority to conduct the business of the parties is expressly reserved and vested in the Service Corporation. Title to all money collected is expressly reserved in the Service Corporation as trustee. The defendant Service Corporation, under the terms of its own contract, is, of necessity, a principal. It derives no authority from any one. It is the fountainhead and primary source of authority. It is the trustee of the money collected by it. While it styles itself a charitable corporation, there is no reference to be found in any of the contracts relating to the disposition of any profits left in its hands over and above the disbursements made to physicians, hospitals and nurses. It should be noted that the Service Corporation, under the terms of its contract with the employer, collects all the money which is involved in the transactions covered by the contracts. It makes all remittances to the physicians, hospitals and nurses for the services furnished, at its instance, to employee members. The contract vests title to these funds in the Service Corporation. The court therefore concluded that the Service Corporation was a primary contracting party to each of the agreements under consideration and directly liable for violation of its contract by refusing, through its medical director, to accept and certify the plaintiff for all the benefits and services accruing to her under the contracts, as an employee-member of the medical aid groups.

Furthermore, the court held that the business being conducted by the Service Corporation meets the requirements of the insurance statute and that the corporation performs the functions of an insurer. It sells medical protection to working people against the hazard of injury or illness. It releases the employer from the care and expense of medical and health aid to its employees. It collects a fixed premium from each employee and reduces the respective rights and obligations of all the interested parties to a written contract. Through its medical director it determines when coverage applies to the employee—when it does not apply. All of this brings the business of the Service Corporation within the spirit and purpose of the insurance statutes.

Accordingly the court held that the plaintiff, as an employee member of the medical aid group, was entitled to hospitalization, nurse and physician care; that the King County Medical Service Corporation and the Seattle General Hospital are co-principals of the contract entered into between them and the Seattle Chamber of Commerce and that the Service Corporation is a trustee of the monies collected by it; that they are jointly and separately liable for the expense of the service administered to plaintiff; that the judgment against the Service Corporation and in favor of the plaintiff and his wife for the sums paid for nurses expense and the judgment denying the Seattle General Hospital recovery of the amount of its bill for hospital care incurred by the plaintiff were both proper. Accordingly the judgments of the lower court in favor of the plaintiff were affirmed.—*McCarty v. King County Medical Service Corporation, 175 P. (2d) 653 (Wash., 1946).*

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS
BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of the boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL Aug. 9, page 1262.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II.* Various centers, Sept. 15-17. *Part III.* Durham, N. C., Oct. 21-23. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia 2.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: Part II. *Oral.* Cleveland, Oct. 5-11. Sec., Dr. P. M. Wood, 745 Fifth Ave., New York 22.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOGY: *Part II. Written.* Various centers, Sept. 15. Sec., Dr. G. M. Lewis, 66 E. 66th St., New York 21.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* Chicago, Oct. 8-10. Asst. Sec., Dr. W. A. Werrell, 1 West Main St., Madison 3.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, May or June. Final date for filing application is Feb. 1. Sec., Dr. W. J. German, 310 Cedar St., New Haven, Conn.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Part I. Written.* Various Centers, Feb. 6. Final date for filing application is Nov. 1. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh 6.

AMERICAN BOARD OF OPHTHALMOLOGY: Chicago, October 6-12. Sec., Dr. S. Judd Beach, 704 Congress St., Portland, Me.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Part II. Chicago, Jan. 22-23. Final date for filing applications is Sept. 15. Sec., Dr. F. M. McKeever, 1136 W. Sixth St., Los Angeles 14.

AMERICAN BOARD OF OTOLARYNGOLOGY: Chicago, Oct. 7-11. Sec., Dr. D. M. Lierle, University Hospitals, Iowa City.

AMERICAN BOARD OF PATHOLOGY: Chicago, Oct. 24-25. Final date for filing application is Sept. 15. Sec., Dr. Robert A. Moore, Euclid Ave. and Kingshighway, St. Louis 10.

AMERICAN BOARD OF PEDIATRICS: Dallas, Dec. 5-7. Philadelphia, Jan. 9-11. Sec., Dr. Lee F. Hill, 718 Royal Union Bldg., Des Moines 9.

AMERICAN BOARD OF PLASTIC SURGERY: Examinations are given in April and November of each year in the home town of applicants. Sec., Dr. Louis T. Byars, 508 N. Grand Blvd., St. Louis.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: *Oral.* New York, December. Final date for filing application is Sept. 15. Sec., Dr. Francis J. Braceland, 102-110 Second Ave., S. W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Written.* Various Centers, March. Final date for filing application is Dec. 1. Sec., Dr. J. S. Rodman, 225 S. 15th St., Philadelphia 2.

AMERICAN BOARD OF UROLOGY: Chicago, February. Final date for filing application is Nov. 1. Sec., Dr. Harry Culver, 1409 Willow St., Minneapolis 4.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1937 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

73:391-530 (April) 1947

*Postacidotic State of Infantile Diarrhea: Symptoms and Chemical Data. Postacidotic Hypocalcemia and Associated Decreases in Levels of Potassium, Phosphorus and Phosphatase in the Plasma. S. Rapoport, K. Dodd, M. Clark and I. Syllm.—p. 391.

Feeding of Premature Infants: Comparison of Human and Cow's Milk. H. H. Gordon, S. Z. Levine and Helen McNamara.—p. 442.

Erythema Infectiosum. M. J. Fox and J. M. Clark.—p. 453.

Juvenile Osteopetrosis: Metabolic Studies in 2 Cases and Further Observations on Composition of the Bones in This Disease. J. B. Pincus, I. F. Gittleman and B. Kramer.—p. 458.

Effect on Organisms of Children of Privations Caused by the Siege of Budapest. J. Bakucz.—p. 489.

Postacidotic State of Infantile Diarrhea.—Rapoport and his associates found in infants with diarrhea, in the period following cessation of acidosis and dehydration, low levels of calcium, potassium, phosphorus and phosphatase. The reduction of the ions is thought to be caused by their avid uptake by the previously depleted tissues of the body. The postacidotic phase of diarrhea is characterized by a clinical picture consisting of lethargy or irritability, convulsions, respiratory embarrassment, derangements of cardiac function, intracranial and gastrointestinal hemorrhages and generalized edema. Less often classic signs of peripheral tetany and of carpopedal and laryngeal spasms are seen. The clinical manifestations appear related primarily to the hypocalcemia, although possible effects of low values of potassium and phosphorus in the plasma cannot be gainsaid. Prematurity, malnutrition, severe diarrhea and acidosis of long duration, considerable fever, extensive dehydration and retention of waste nitrogen favor the occurrence of severe degrees of postacidotic manifestations and hypocalcemia. Correction of the acidosis by alkalizing agents may accentuate the tendency to the postacidotic disturbance. Calcium salts have been of benefit in preventing or curing the postacidotic phase of diarrhea.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

57:545-652 (May) 1947

Pneumoencephalogram of Cerebellar Atrophy. J. P. Murphy and R. Arana.—p. 545.

Hemangioma of Vertebra Associated with Spinal Cord Compression: Case Report. D. B. Foster and G. W. Heublein.—p. 556.

*Disseminated Granuloma Inguinale of Bones. W. J. Rhinehart and J. T. Bauer.—p. 562.

Eosinophilic Granuloma of Bone in Hand. W. M. Loehr.—p. 568.

Roentgenographic Demonstrations of Sinuses and Fistulae. R. C. Pendergrass and W. C. Ward.—p. 571.

Volvulus of Stomach Complicated by Peptic Ulcer. I. S. Silverstein.—p. 578.

Roentgenologic Aspects of Battle Injuries of Chest. M. Rakofsky and V. P. Satinsky.—p. 583.

Accessory Lobe of Liver and Significance of Roentgen Diagnosis. P. S. Friedman, L. Solis-Cohen and S. Levine.—p. 601.

Roentgen Findings in Acute Pancreatitis. J. C. Glenn Jr. and G. J. Baylin.—p. 604.

Dextrocardia with Complete Situs Inversus: Case Reports. S. Richman.—p. 616.

Fracture of a Sesamoid Bone of the Thumb: Report of a Case. D. L. Jellinger.—p. 619.

Disseminated Granuloma Inguinale of Bones.—A Negro woman aged 33 who had a foul bloody vaginal discharge gave a history of having had a supravaginal hysterectomy, bilateral salpingo-oophorectomy and appendectomy. The cervical stump of the uterus was almost completely destroyed by a soft ulcerating bleeding growth. Two biopsies of the vaginal wall revealed vascular granulative tissue but the underlying specific lesion of granuloma inguinale was not recognized. A nonfunctioning kidney was removed and a psoas abscess was drained. Later a third biopsy of the vaginal lesion revealed the characteristic specific granulomatous tissue consisting of many vacuolated macrophages filled with Donovan bodies, associated with scattered collections of polymorphonuclear cells. A careful review of previous vaginal and cervical biopsies disclosed occasional macrophages with Donovan bodies. Subsequently multiple bone lesions developed and the patient died. The results of the necropsy are described by Rhinehart and Bauer. Disseminated granuloma inguinale of bones is an uncommon condition characterized roentgenologically by osteolytic areas in the bones. In none of the cases so far reported are the x-ray changes specific for this disease. Diagnosis is best established by biopsy with search for macrophages containing Donovan bodies.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

31:239-344 (May) 1947

Effect of Hyperpyrexia on Therapeutic Efficacy of Penicillin in Experimental Syphilis. H. Eagle, H. J. Magnuson and R. Fleischman.—p. 239.

Observations on Therapeutic Efficacy in Experimental Syphilis of Calcium Penicillin in Oil and Beeswax and Their Bearing on Its Use in Man. H. Eagle, H. J. Magnuson and R. Fleischman.—p. 246.

Local Chemical Prophylaxis of Experimental Syphilis with Phenyl Arsenoxides Incorporated in Ointments and in Soap. H. Eagle, H. J. Magnuson and R. Fleischman.—p. 257.

Reinfection in Experimental Syphilis in Rabbits Following Penicillin Therapy. R. C. Arnold, J. F. Mahoney and J. C. Cutler.—p. 264.

*Treatment of Gonorrhea with Streptomycin. B. D. Chinn, L. E. Putnam, S. R. Taggart and R. P. Herwick.—p. 268.

Comparison of In Vitro Susceptibility of Gonococcus to Penicillins G and X. M. J. Romansky and E. V. D. Robin.—p. 271.

Chancroid in Women in Manila. Dolores G. LaO and R. E. Trussell.—p. 277.

Incidence of Asymptomatic Lymphogranuloma Venereum in a Municipal Hospital: Survey Based on 1,512 Cases. L. T. Wright, G. A. Spencer and A. Oppenheim.—p. 282.

Studies on the Complement Fixation Reaction in Lymphogranuloma Venereum. Margaret J. Wall, A. Heyman and P. B. Beeson.—p. 289.

*Treatment of Acute Gonococcic Urethritis with Single Subcutaneous Injections of Penicillin in Beeswax Peanut Oil. D. Frost, M. F. Allende, W. M. M. Kirby and H. S. Ginsberg.—p. 300.

Quantitative Macroprecipitation Test for Syphilis with Cardiolipin-Lecithin Cholesterol Antigen. Rachel Brown.—p. 304.

Reactivity of Tests Using Cardiolipin Antigens in a Limited Number of Nonsyphilitic Cases. G. W. Stout.—p. 314.

Vertigo as Presenting and Only Symptom in Neurosyphilis. B. J. Alpers.—p. 322.

Theoretical Considerations in Venereal Disease Control Planning. M. Leider.—p. 325.

Streptomycin Treatment of Gonorrhea.—Chinn and his associates gave each of 4 men with acute gonorrheal urethritis 0.1 Gm. of streptomycin sulfate dissolved in 3 cc. of isotonic solution of sodium chloride at hourly intervals for five doses. All were observed daily for three days after treatment and at the seventh and tenth days. All 4 responded promptly within twenty-four to forty-eight hours by a reduction or cessation of the urethral discharge. Cultures following prostatic massage at each examination were found negative. Later treatment with a single dose of 0.5 Gm. of streptomycin was attempted, and consistent cures could be obtained in this way. Single doses of 0.4 and 0.3 Gm. likewise proved effective in all of the cases, but smaller doses (0.2 or 0.1 Gm.) were not always effective. Patients failing to respond to streptomycin were cured with a second treatment of 0.2 Gm. of streptomycin or with penicillin.

Subcutaneous Injections of Penicillin in Beeswax-Peanut Oil in Gonococcic Urethritis.—Frost and his associates administered a single subcutaneous injection of 300,000 units of penicillin in beeswax-peanut oil to 200 patients with acute gonococcic urethritis; 177 (88.5 per cent) of these were cured, and 23 (11.5 per cent) were failures. These results compare favorably with those obtained when penicillin-beeswax mixtures were administered by the intramuscular route. There was less discomfort at the time of injection with the subcutaneous than with the intramuscular route, but in a small percentage of cases in which the material was injected too superficially subcutaneous injections were followed by indurations, nodules and sterile abscesses. The detection of 11 of the 23 failures three weeks after treatment emphasizes the necessity of a minimum follow-up period, both clinical and bacterio-

logic, of at least twenty-one days. Single subcutaneous or intramuscular injections of 300,000 units of penicillin-beeswax-peanut oil 1 cc. constitutes the simplest and most satisfactory method of treating acute gonococcic urethritis available at present.

Annals of Surgery, Philadelphia

125:513-672 (May) 1947

Mortality of Surgical Disease. E. P. Lehman and W. F. Becker. —p. 515.
Primary Pulmonary Malignancy Treated by Resection: Analysis of 129 Cases. A. Ochsner, M. E. DeBakey and L. Dixon.—p. 522.
*Present Status of Surgical Treatment of Carcinoma of the Lung. W. F. Rienhoff Jr.—p. 541.
A Concept of Toxic Goiter. W. Bartlett.—p. 566.
*Use of Thiouracil, Thiobarbital and Propyl Thiouracil in Patients with Hyperthyroidism. F. H. Lahey and E. C. Bartels.—p. 572.
Use of Thyroid Extract with Thiouracil in Preparation of Thyrotoxic Patient: Preliminary Report. R. M. Penick Jr.—p. 582.
Evaluation of Pulmonary Embolism Following Intravascular Venous Thrombosis. J. J. Morton and G. B. Mider.—p. 590.
Study of Malignant Cells with Phase Difference Microscopy. W. M. Firor and G. O. Gey.—p. 604.
Surgical Considerations in Treatment of Hypertension. W. McK. Craig and K. H. Abbott.—p. 608.
Chronic Shock: Problem of Reduced Blood Volume in Chronically Ill Patient: Concept of Chronic Shock; Hemoglobin and Red Blood Cell Deficits in Chronic Shock; Quantitative Aspects of the Anemia Associated with Malignart Tumors. J. H. Clark, W. Nelson, C. Lyons, H. S. Mayerson and P. DeCamp.—p. 618.
Treatment of Injuries of the Brachial Plexus. L. Davis, J. Martin and G. Perret.—p. 647.
Should the Neck Nodes be Dissected in Patients with Carcinoma of Lip? R. D. McClure and C. R. Lam.—p. 658.
Present Status of Leg Length Discrepancy Problem. J. W. White. —p. 662.
Analysis of Pelvic Operations Preceding Hysterectomy: Causal Relationship. C. Tyrone.—p. 669.

Surgical Treatment of Carcinoma of the Lung.—Rienhoff records the clinical analysis, preoperative preparation, operative procedure and the immediate and remote postoperative results in a series of 327 consecutive cases of carcinoma of the lung which have been referred for surgical treatment. Chest roentgenograms were always positive. The presence of bronchogenic cancer should be inferred in every instance in which roentgenograms of the chest show a departure from normal and in which this departure is not characteristic of one of the commoner lesions of the lung. An infiltrating hilar shadow in a patient past middle age, associated with cough, hemoptysis and absence of tubercle bacilli in the sputum almost certainly indicates a bronchogenic carcinoma. Second to the roentgenogram in diagnostic importance is bronchoscopy. A positive diagnosis of primary carcinoma of the lung can be made by direct vision, by biopsy or by both. In 70 per cent of the patients in this series a positive biopsy of the cancer was obtained. Exploratory thoracotomy should be resorted to far more frequently than it has been in the past. In 70 per cent of the 112 patients in whom a total pneumonectomy was performed there were metastases to the bronchial and tracheal lymph nodes. This fact emphasizes the necessity of performing a total pneumonectomy with dissection of the regional nodes in order to effect a permanent cure. Treatment with penicillin and the induction of artificial pneumothorax is stressed in the preoperative treatment. Primary carcinoma of the lung can be satisfactorily treated by surgical removal of the entire organ. Surgical measures short of total pneumonectomy are not efficacious. Postoperative mortality and longevity are at least as good as, if not better than, the postoperative results following the surgical treatment of carcinoma of other organs.

Thiouracil, Thiobarbital and Propyl Thiouracil in Hyperthyroidism.—Lahey and Bartels say that experience with the use of thiouracil, thiobarbital and propyl thiouracil in 660 cases of hyperthyroidism during the last three and one-half years has shown that these drugs act by preventing the synthesis of an active thyroid hormone and by so doing lead to an increase in hyperplasia of the thyroid gland. If these drugs are used in adequate doses over a sufficient length of time they will restore the basal metabolic rate to a normal level. The comparative dose of thiouracil, thiobarbital and propyl thiouracil is 600 mg., 50 mg. and 200 mg. respectively. Since the percentage of reactions is 9 for thiouracil, 28 for thiobarbital and 2 for propyl thiouracil, the last named agent is the drug of choice. Since propyl thiouracil may cause depressive changes in the white blood cells, its administration must be followed with white and differential blood counts made every ten to fourteen days during treatment. The treatment of agranulocytosis consists in the early administration, intramuscularly and by nasal and throat spray, of adequate doses of penicillin. The increase in the vascularity of the thyroid caused by these drugs makes thyroidectomy difficult, but the simultaneous use of iodine largely overcomes this difficulty. These antithyroid drugs produce prolonged remissions of mild primary hyperthyroidism, but little hope can be held for a permanent remission in patients with severe primary hyperthyroidism with a large gland. Since the mortality of thyroidectomy is now almost nil, surgical removal after proper preoperative treatment seems to be the treatment of choice for hyperthyroidism.

Archives of Otolaryngology, Chicago

45:377-502 (April) 1947

Pedicled Pericranial Grafts for Repair of Dural Tears in Anterior Fossa of the Skull. A. D. Ecker.—p. 377.
Otolaryngologic Experiences in the Philippines. S. A. Friedberg.—p. 385.
Pentothal Sodium and Combination of Pentothal Sodium and Curare as an Anesthetic for Tonsillectomy. R. B. Robertson.—p. 392.
Interrelationship of Hydrogen Ion Concentration, Electrolyte Contents and Colloids in Permeability of Membranes: Calcium Sulfathiazole in Nasal Therapy. S. L. Ruskin.—p. 398.
Pressure Treatment of Allergic Sinusitis. J. M. Robison.—p. 405.
Friedlaender's Bacillus Meningitis Secondary to Otitis Media: Report of a Case with Recovery and Review of Literature. A. D. Ghiselin and R. B. Robertson.—p. 432.
Classic and Other Types of Tracheotomy. R. Waldapfel.—p. 446.
Tumors of Nose and Throat. G. B. New and E. L. Foss.—p. 483.

Canadian Medical Association Journal, Montreal

56:475-594 (May) 1947

Optic Atrophy in Hong Kong Prisoners of War. P. G. Bell and J. C. O'Neill.—p. 475.
Residual Disabilities in Hong Kong Repatriates. J. D. Adamson, P. K. Tisdale, D. C. Brereton and L. W. B. Card.—p. 481.
Preoperative and Postoperative Care of Intestinal Obstruction. H. R. Robertson.—p. 487.
Anesthetic Emergencies. A. B. Noble.—p. 490.
*Influenzal Meningitis. H. S. Little.—p. 496.
*Infectious Mononucleosis: Complications. F. S. Brien.—p. 499.
Hemoglobin Levels in Canadian Population Groups: Children and Young Women. W. W. Hawkins, H. J. Leeson and E. W. McHenry.—p. 502.
Cyanosis in Infants in Rural Areas: Well-Water Methemoglobinemia. H. Medovy, W. C. Guest and M. Victor.—p. 505.
Headache: Treatment with Histamine. W. Leslie and F. A. Dunsworth. —p. 509.
Roentgenologic Localization of Ureteral Obstruction by Non Radiopaque or Indistinguishable Calculi. G. Gill and W. Light.—p. 513.
Alloxan Diabetes. B. A. Houssay.—p. 519.
Notes on Cholecystectomy. D. Macdonald.—p. 523.
Mucosal Respiratory (Stevens-Johnson) Syndrome. W. K. Lindsay. —p. 527.
Skin Tests in Dermatology. B. Kanee.—p. 529.
Pediatric Endocrinology. G. A. Campbell and P. J. Maloney.—p. 533.

Influenzal Meningitis.—According to Little, influenzal meningitis is confined almost entirely to infancy and early childhood. Twelve of the group of 13 patients reviewed in this paper were less than 4 years old. Best results in the treatment of meningitis due to Hemophilus influenzae are obtained by the use of one of the sulfonamides with type specific antiserum. With this treatment the fatality rate has been lowered from 95 to 50 per cent and less. Every patient should be given both sulfonamide therapy and serotherapy as soon as a diagnosis has been made.

Complications of Infectious Monucleosis.—According to Brien infectious mononucleosis ordinarily is not difficult to recognize, and complications are regarded as exceptional. However, the condition may be confused with secondary syphilis, German measles, typhus and acute leukemia. A study of the blood picture usually settles the question. The disease may become complicated by cardiac disorders, bronchitis, albuminuria, hematuria and hepatic and splenic disorders. Spontaneous rupture of the spleen is an unusual occurrence; 7 such cases have been observed in the American army, 1 in the British and 2, which are briefly described, occurred in the author's wards in a Canadian army hospital. The central ner-

vous system may become involved in the form of meningitis, encephalitis or both. Pain in the back of the neck is not uncommon in cases with posterior cervical glandular involvement, and at times it is accompanied with voluntary rigidity, which simulates that seen in meningitis.

Iowa State Medical Society Journal, Des Moines

37:187-222 (May) 1947

The Doctor's Role in Public Relations. R. L. Parker.—p. 187.
Leadership in Medicine. H. A. Spilman.—p. 189.
Hemipelvectomy in Treatment of Osteogenic Sarcoma of Ilium. L. T. Palumbo.—p. 190.
Preliminary Report on Transvaginal X-Ray Treatment of Carcinoma of Cervix. H. B. Elkins.—p. 196.
Adhesive Arachnoiditis Following the Intrathecal Administration of Penicillin. C. H. Millikan and A. L. Sahs.—p. 198.
Use of Caudal Anesthesia in Obstetrics. D. Wall.—p. 201.
The Doctor's Role in the Postwar World. A. W. Adson.—p. 203.

37:223-262 (June) 1947

Uterine Bleeding. G. D. Royston.—p. 223.
Advances in Medical and Surgical Treatment of Primary Glaucoma. R. M. Wolfe.—p. 231.
Fetal and Neonatal Deaths. R. E. Weland.—p. 234.
Nutrition in Pregnancy. E. S. Eppright.—p. 237.
The Indispensable Man. W. M. Sproul.—p. 240.

Journal of Gerontology, Springfield, Ill.

2:1-92 (Jan.) 1947

Bill of Rights for Old Age. G. Lawton.—p. 1.
Research in Cardiovascular Diseases. A. E. Cohn.—p. 11.
Length of Life in Ancient Greece. J. L. Angel.—p. 18.
Oral Glucose Tolerance Test in Old Men. S. M. Horvath, R. Wisotsky and W. Corwin.—p. 25.
Program of Research on Aging of the Skin. E. V. Cowdry, Zola Cooper and W. Smith.—p. 31.
Pathologic Changes of Old Age. G. Strassmann and T. Krush.—p. 45.
Conditions Desirable for Rapid Progress of Gerontological Research. V. Korenchevsky.—p. 54.
Chronic Progressive Subcortical Encephalopathy: Report of a Case. Meta A. Neumann.—p. 57.

Journal of Nutrition, Philadelphia

33:491-600 (May) 1947

Growth of Odontoblasts of Incisor Tooth as Criterion of Vitamin C Intake of Guinea Pig. E. W. Crampton.—p. 491.
Renal Threshold for Ascorbic Acid: Modified Method for Estimation with Results for 12 Adult Subjects. Ann M. Klosterman, J. Estelle Haines, Hazel M. Hauck and Alice B. Kline.—p. 505.
*Plasma Levels and Urinary Excretion of Ascorbic Acid in Women During Menstrual Cycle. Hazel M. Hauck.—p. 511.
Biotin Balance in Albino Rat. Margaret A. McGregor, Helen T. Parsons and W. H. Peterson.—p. 517.
Study of Ascorbic Acid Metabolism of Adolescent Children. Clara A. Storvick, Margaret L. Fincke, Jeanne P. Quinn and Bessie L. Davey.—p. 529.
Study of Sex Differences in Composition of Rats, with Emphasis on Lipid Component: Sex Difference in Susceptibility to Essential Fatty Acid Deficiency with High and Low Fat Diets. H. G. Loeb and G. O. Burr.—p. 541.
Amino Acid Content of Feeds: I. Leucine, Valine, Isoleucine and Phenylalanine. B. S. Schweigert.—p. 553.
Role of B_6 Deficiency in Tryptophan Niacin Relationships in Rats. F. Rosen, J. W. Huff and W. A. Perlzweig.—p. 561.
*Effect of Fat Level of Diet on General Nutrition: I. Growth, Reproduction and Physical Capacity of Rats Receiving Diets Containing Various Levels of Cottonseed Oil or Margarine Fat ad Libitum. H. J. Deuel Jr., Emily R. Meserve, Evelyn Straub, Cornelia Hendrick and B. T. Scheer.—p. 569.
Id.: II. Growth, Mortality and Recovery in Weanling Rats Maintained on Restricted Calories. B. T. Scheer, Dorothy F. Soule, M. Fields and H. J. Deuel Jr.—p. 583.
Net Protein Value of Food Yeast. J. A. Goyco and C. F. Asenjo.—p. 593.

Vitamin C and the Menstrual Cycle.—In 10 women whose ascorbic acid metabolism was studied for a total of twenty-three periods of from four to six weeks duration, during which thirty menstrual periods occurred, Hauck found no evidence of unusual variability in either urinary excretion of ascorbic acid or fasting plasma ascorbic acid values associated with the menstrual cycle.

Dietary Fat Level and Nutrition.—Deuel and his associates show that ad libitum feeding to rats of diets varying in fat content from 5 to 50 per cent (10 to 70 per cent of total calories) results in better growth, greater physical capacity and better reproductive and lactation performance than does feeding of diets containing minimal amounts of fat. Optimum growth was observed on diets containing 20 to 40 per cent fat. The most pronounced differences were observed in males. The effects are in part, but not entirely, attributable to greater caloric intake of the diets containing fat.

J. of Pharmacology & Exper. Therap., Baltimore

89:297-394 (April) 1947

Pharmacology of Vasodepressor Compounds Structurally Related to the Sympathomimetic Amines. A. M. Lands, E. E. Rickards, V. L. Nash and K. Z. Hooper.—p. 297.
Effect of Perfusion Through Isolated Liver on the Prothrombin Activity of Blood from Normal and Dicumarol Treated Rats. A. M. Lupton.—p. 306.
Cardiovascular Effects of Sodium Caprylate in the Cat. H. M. Kipple, M. S. Waldman and V. E. Hall.—p. 313.
Mechanism of Paralysis Resulting from Toxin of Clostridium Botulinum: Action of Toxin on Acetylcholine Synthesis and on Striated Muscle. Clara Torda and H. G. Wolff.—p. 320.
Studies on Veratrum Alkaloids: VII. Receptor Areas in the Coronary Arteries and Elsewhere as Revealed by Use of Veratridine. G. S. Dawes.—p. 325.
Effect of BAL and BAL-Glucoside Therapy on the Excretion and Tissue Distribution of Injected Cadmium. Helen M. Tepperman.—p. 343.
Central and Autonomic Effects Following the Combined Administration of Sodium Arsenite and 2,3-Dimercaptopropanol (BAL). T. Koppanyi and F. Sperling.—p. 350.
Comparative Central Depressant Actions of Some 5-Phenyl-5-Alkyl Barbituric Acids. G. A. Alles, C. H. Ellis, G. A. Feigen and Mildred A. Redemann.—p. 356.
3',5'-Dibromosulfanilanilide: Toxicity, Absorption and Metabolism. E. W. McChesney.—p. 368.
Effect of Thorotrast on Anaphylactic Shock in the Dog. A. Goth and J. Holman.—p. 379.
Pharmacologic Activity of N-Methyl-Beta-Cyclohexylisopropylamine Hydrochloride. A. M. Lands, V. L. Nash, H. R. Granger and B. L. Dertinger.—p. 382.

New England Journal of Medicine, Boston

236:647-682 (May 1) 1947

Human Laboratory Infection with Venezuelan Equine Encephalomyelitis Virus: Report of 4 Cases. H. Koprowski and H. R. Cox.—p. 647.
Survey of First Three Months of Operation of a Veterans Administration Mental Hygiene Clinic. M. H. Adler and E. M. L. Burchard.—p. 654.
*Creeping Eruption in New England: Report of 2 Cases. C. U. Lowe and D. L. Augustine.—p. 658.
Surgery of Autonomic Nervous System. R. H. Smithwick.—p. 662.
Periarteritis Nodosa. Diffuse Cortical Necrosis.—p. 670.
Congenital Tracheobronchial Cyst of Esophageal Wall.—p. 672.

Creeping Eruption in New England.—Lowe and Augustine say that, although creeping eruption is frequent in tropical and subtropical countries, this infection has been reported only once before in New England. One of the 2 cases of creeping eruption reported here was caused by Ancylostoma caninum of canine origin and was acquired in Boston. The second case, acquired in Georgia and observed in Boston, was probably caused by Ancylostoma braziliense. In view of the fact that Ancylostoma caninum is a relatively frequent parasite of dogs in New England, the question arises concerning the reason for the rarity of creeping eruption in the human population. The lack of a sufficient number of consecutive days with favorable temperature and moisture for larval growth of the parasite in New England soil, together with high hookworm infections in the dogs, does not permit the development of a heavy soil infection under most circumstances. Only in kennels and under unusual conditions, such as those in case 2, are soil infections likely to become sufficiently heavy and concentrated to cause creeping eruption.

Pennsylvania Medical Journal, Harrisburg

50:801-904 (May) 1947

Rupture of Uterus. J. S. Taylor.—p. 801.
Diabetes Mellitus: Analysis of 250 Cases and Discussion of Simplified Procedures for Regulation. W. J. Stainsby and J. A. Collins Jr.—p. 808.
Prostatitis and Seminal Vesiculitis: Acute and Chronic. T. R. Fetter.—p. 812.
Public Relations of American Medical Association: Then and Now. H. H. Shoulders.—p. 823.
Our Efforts to Win Public Good Will. T. Wiprud.—p. 827.
Public Relations Activities of a County Medical Society. L. H. Criep.—p. 831.
Improved Public Relations. W. F. Irwin.—p. 833.
Answer of a Smaller County Medical Society. N. K. Beals and J. A. Welty.—p. 836.
A County Medical Society's Public Relations. G. R. Good.—p. 838.
Saga of a County President. Alice E. Sheppard.—p. 840.
Progress Report of the Medical Service Association of Pennsylvania for 1946. L. T. Buckman.—p. 843.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

31:257-320 (May) 1947

The Trochlear Nerve in Human Embryo and Fetus. E. R. A. Cooper. —p. 257.
Color Vision in Consulting Room. F. R. Neubert.—p. 275.
A Survey of Esophoria and Ciliary Spasm. G. Irvine.—p. 289.
Contact Lenses in Excelsis. A. H. Briggs.—p. 304.

31:321-384 (June) 1947

Binocular Vision. Dorothy Campbell.—p. 321.
Regeneration of Wounds of External Membrane of the Eye in the Light of New Pathologicoanatomic Results. E. Levkoieva.—p. 336.
*Panophthalmitis in Premature Infant Treated by Streptomycin. L. B. Somerville-Large.—p. 362.
Meningeal Reactions in Sympathetic Ophthalmitis. L. Corcelle.—p. 366.
Conjunctivitis Due to Exposure to Dimethyl Sulfate. H. J. Stern. —p. 373.

Panophthalmitis in Premature Infant Treated with Streptomycin.—Somerville-Large reports the development in a premature infant weighing 4 pounds 5 ounces (1,955 Gm.) at birth of panophthalmitis following umbilical cord infection by Bacillus proteus, an organism resistant to penicillin and sulfonamides but highly sensitive to streptomycin. One Gm. of streptomycin was dissolved in 10 cc. of sterile water and 1 cc. was injected intramuscularly every three hours for a total of twenty-one hours. The dose was then reduced to 0.5 cc. three hourly for sixty-six hours and further reduced to 0.25 cc. every three hours until a total of 2.5 Gm. had been given. The treatment with streptomycin covered a period of six and a half days. On the ninth day from the commencement of streptomycin the globe perforated. Evisceration was carried out on the same day. The vitreous was found to be grossly infected. Swabs from the site of perforation, from the anterior chamber and from the vitreous were found to be sterile on culture. By the finding of Bacillus proteus in the anterior chamber prior to commencement of streptomycin treatment, and by the negative cultures obtained from the highly infected globe after treatment, it may be inferred that this drug is capable of permeating the uveal tissue. Three and a half months later the child was in good health. The streptomycin treatment had no ill effects.

British Journal of Radiology, London

20:129-176 (April) 1947

Experiences with Bone Tumors. F. F. Brailsford.—p. 129.
Industrial Skin Cancer, with Special Reference to Pitch and Tar Cancer. I. Hieger, S. A. Henry, P. Ross and J. G. Winternitz.—p. 145.
Standardized Radiologic Pelvimetry: III. New Method of Measuring the Outlet. E. P. Allen.—p. 164.

20:177-220 (May) 1947

Provisional Calculation of Tolerance Flux of Fast Neutrons. J. S. Mitchell.—p. 177.
Accuracy in Radon Work. F. Ellis, W. A. Jennings and S. Russ. —p. 181.
Surfaces of Equal Sensitivity Near the Window of a G. E. C. Geiger Counter Type G. M. 2. J. L. Putman and R. H. Boxall.—p. 190.
X-Ray Diagnosis of Cholesteatoma in Temporal Bone. S. Welin.—p. 192.
Cholesteatomata of Temporal Bone. H. K. G. Hodgson.—p. 202.
Standardized Radiologic Pelvimetry: Interpretation of Pelvimetry. E. P. Allen.—p. 205.

Medical Journal of Australia, Sydney

1:481-516 (April 19) 1947

Nutrition Survey of Tasmania: Vitamin C Nutritional Status in the Spring of 1945 and Autumn of 1946. Vivienne Pecover, Thelma J. Norris and F. W. Clements.—p. 481.
*Dental Caries: Public Health Aspects of Control by Fluorine. N. D. Martin.—p. 486.
The Pelvic Fascia: Significance to the Surgeon. W. J. Close.—p. 490.

1:517-544 (April 26) 1947

The Control of Tuberculosis in Tasmania. T. H. Goddard.—p. 517.
Solar Photophthalmia. J. M. Dwyer.—p. 523.
The Normal Leukocyte Count. C. R. B. Blackburn.—p. 525.
Postoperative Flatulence or "Gas" Pains. V. J. Kinsella.—p. 528.
Administration of Nebulized Solutions of Penicillin. R. H. Orton. —p. 529.

Fluorine in Control of Dental Caries.—The results of epidemiologic investigations indicate that there exists an inverse relationship between the incidence of dental caries and the fluorine content of the water supply. A number of studies are in progress in the United States and in Canada to test the effectiveness of controlling caries by the fluorination of the water supplies. As the results of these studies will not be available for ten to twelve years, Martin considers it expedient that similar studies be commenced in Australia. It is assumed that the alteration of the fluorine concentration of the domestic water supplies to 1 part per million would be sound public health practice. The addition of sodium fluoride to water supplies presents no technical problems to the water works engineer. Automatic chemical feeding equipment which will add the requisite amount of sodium fluoride to the water (20½ pounds of sodium fluoride to a million gallons of fluoride-free water) is available and is inexpensive.

Presse Médicale, Paris

55:293-304 (May 3) 1947

*Frontiers and Atypical Forms of Besnier-Boeck-Shaumann's Disease. L. M. Pautrier.—p. 293.
*Effects of Castration on Metastases of Cancer of Breast. A. Sicard. —p. 294.
Prophylaxis of Postoperative Shock. M. Larget, J. Guilleminot and P. Grigaut.—p. 295.

Besnier-Boeck-Schaumann's Disease.—Pautrier points out that in recent times descriptions have appeared under the designation of Besnier-Boeck-Schaumann's disease of transitional types of atypical cases, establishing apparent relations between this disease and tuberculous lupus, erythematous lupus, the tuberculids, the hypodermic sarcoids of Darier-Roussy, disseminated follicular lupus and erythema nodosum. The same has been done with regard to the pathologic aspects resulting in overlapping with Hodgkin's disease or with mycosis fungoides. The author feels that the situation is deplorable in view of the fact that Besnier-Boeck-Schaumann's disease represents a well defined clinical and histologic entity.

Effects of Castration on Metastases of Mammary Cancer.—On the basis of observations on 11 patients with mammary cancer, Sicard concludes that in young women as well as in women beyond the menopause castration plays an important role in the evolution of metastases of cancer of the breast. It rapidly suppresses pains produced by bone and lymph node metastases, improves the general condition and temporarily stabilizes the lesion. Surgical castration seems to give much better results than does castration effected by irradiation. Treatment with testosterone proved ineffective in 2 cases.

Acta Chirurgica Scandinavica, Stockholm

95:193-290 (Feb.) 1947. **Partial Index**

*Total Resection of Carcinomatous Stomach. H. Wahren.—p. 193.
Malignant Nasopharyngeal Tumors Manifesting Themselves as Parotid Tumors. E. Godtfredsen.—p. 205.
Treatment of Cancer of Colon. K. A. Hultborn.—p. 215.
Drainage in Operations on the Bile Passages. H. Haldbo.—p. 265.
New Method of Treating Capillary Hemangiomas. G. Jönsson.—p. 275.
Postoperative Emptying Difficulties in Direct Connection with Gastric Resection. I. R. Sandberg.—p. 285.

Total Resection of Carcinomatous Stomach.—Wahren reviews observations on 9 patients, 8 men and 1 woman, who had cancer in the corpus portion of the stomach and had been treated by total resection. All of them were discharged from the hospital in good condition. The first death occurred from metastasis in the liver four months after discharge from the hospital. Three other patients died within a year after the operation. The author describes the technic of total resection and discusses the vascular supply of the anastomosis. He thinks that surgeons who have carefully studied the technic of total resection of the stomach need not anticipate a higher mortality rate than that occurring in partial resection. The operation ought to be used for cancer in the fornix and within the upper portion of the corpus as well as in certain scirrhoid processes. It is doubtful whether all cases of cancer of the stomach should be treated by radical resection. When one takes into consideration that cancer within the stomach is diagnosed at a late stage, it is far too optimistic to expect decidedly better results until the disease can be diagnosed in its precancerous stage.

Book Notices

Human Factors in Air Transport Design. By Ross A. McFarland, Ph.D. Cloth. Price, $6. Pp. 670, with illustrations. McGraw-Hill Book Company, Inc., 330 W. 42d St., New York 18, 1946.

This book was written for a purpose planned by the author over the last twenty years and for which there has been and is a very real need. It should be in the library of all physicians interested in aviation medicine as well as in the library of air line executives, especially those in the engineering and planning department, and at any school, such as the Massachusetts Institute of Technology and the California Institute of Technology, where aeronautical engineering is taught.

The accomplished aims of the author are to present factual information on all aspects of air transport design influencing those who operate the planes or travel by air, to furnish whatever interpretative background is necessary to show how a given physical variable creates a human problem and to offer recommendations or possible solutions concerning the human factors in air transport design. A summary is presented at the end of each chapter for those who do not wish to follow the more detailed exposition.

In the first chapter the author presents an analysis of the trends and characteristics of the aircraft industry, including the future technical developments and their implications. Subsequent chapters include flight at high altitude and pressurized cabins; the control of ventilation, temperature and humidity; the control of insects and air borne diseases; carbon monoxide and other noxious gases; the control of noises and vibration; acceleration, motion and flight performance; the cockpit and control cabin; passenger accommodation, and the prevention of aircraft accidents.

The most important point that the author desired to stress, that is, the demonstration of the fundamental importance of interaction of human and physical variables in the design and operation of air craft, has been accomplished. The necessity for reducing the time lag between research and its application has been repeatedly stressed. Undoubtedly subsequent editions will include a great deal of information that is on the restricted list of the army and navy air forces and British air forces at the time of publication.

Henrici's Molds, Yeasts, and Actinomycetes: A Handbook for Students of Bacteriology. By Charles E. Skinner, Ph.D., Assistant Professor of Bacteriology, University of Minnesota, Minneapolis, Chester W. Emmons, Ph.D., Principal Mycologist, Division of Infectious Diseases, National Institute of Health, Bethesda, Maryland, and Henry M. Tsuchiya, Ph.D., Research Associate, Division of Microbiology, Hormel Institute, University of Minnesota, Austin. Second edition. Cloth. Price, $5. Pp. 409, with 136 illustrations. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16; Chapman & Hall, Ltd., 37-39 Essex St., Strand, London, W. C. 2, 1947.

The well known book by Henrici has been brought out in a second edition by three investigators, experts in their respective fields. The comparatively meager literature in the English language on the subject of fungi and actinomycetes as causative agents of human and animal diseases is receiving in this book most expert consideration. In addition, the authors present a detailed discussion of the utilization of fungi, yeasts and actinomycetes for industrial and food purposes. It is sufficient to list the subjects of the chapters to give an idea of the broad scope of this book: structure and classification of the fungi; variations in the lower fungi; methods for studying molds, yeasts and actinomycetes; molds belonging to the Phycomycetes; molds belonging to the fungi imperfecti and the Ascomycetes; fungous diseases of man and animals; infections caused by molds; biologic activities of molds; morphology and classification of the yeasts and yeastlike fungi; pathogenic yeastlike fungi; biologic activities of yeasts; classification, morphology and biologic activities of the actinomycetes; actinomycosis; antibiotic substances. Each chapter is followed by a selected bibliography. The book is exceptionally well written and carefully illustrated, mostly by photographs made by the late Dr. Henrici himself. The book can be read very easily. Although it is primarily designed as a textbook for students specializing in the field, many physicians interested in the subject of applied mycology, especially of fungi as causative agents of diseases, will find the book a valuable addition to their library.

Experiences with Folic Acid. By Tom D. Spies, M.D., Associate Professor of Medicine, University of Cincinnati School of Medicine, Cincinnati. Cloth. Price, $3.75. Pp. 110, with 38 illustrations. Year Book Publishers, Inc., 304 S. Dearborn St., Chicago 4, 1947.

This monograph records, in a group of essays, the historical data leading to the use of folic acid in the treatment of macrocytic anemias. The presentation differs from most American scientific works in that the personal experience of the author is given in the first person, with his interpretation and evaluation of the data as they evolved. There are four excellent colored plates. The author concludes that folic acid, while increasing the number of red blood cells in pernicious anemia, "does not always prevent the occurrence of combined system disease nor does it reverse the degenerative process once it has begun." He concludes that for the present, until more discoveries are made, "liver extract is the safest and most effective therapeutic agent for the routine treatment of pernicious anemia." The author purposely omitted a comprehensive report on all the earlier work in the treatment of anemia in which substances were used which might now be found to contain "folic acid."

The booklet will be helpful to any one who does not have available the extensive publications of Dr. Spies in numerous medical journals in this country and abroad.

Therapeutic Exercise. By F. H. Ewerhardt, M.D., Assistant Professor of Physical Medicine, Washington University School of Medicine and Barnes Hospital, St. Louis, Missouri, and Gertrude F. Riddle, B.S., R.N., R.P.T. Fabrikold. Price, $2.50. Pp. 152, with 8 illustrations. Lea & Febiger, 600 S. Washington Square, Philadelphia 6, 1947.

This treatise is concise and well presented. It gives the functional treatment of joint structure and mechanics and an adequate coverage of muscle anatomy and physiology. There is an excellent chapter on the brachial and lumbosacral plexus, including a brief clinical discussion of peripheral nerve lesions. The remaining half of the book deals with the physiology and application of therapeutic exercise in general and specifically as applied to different areas and for various disabilities including weak feet, relaxed abdominal wall, scoliosis and posture in general. Separate chapters are devoted to poliomyelitis and spastic paralysis. The book can be highly recommended to physical therapeutists and general practitioners. Unfortunately, as in most textbooks on physical medicine, the collaboration of an orthopedic surgeon is lacking. Such an approach to the subjects covered would more clearly indicate the objectives sought for and the results which can reasonably be expected from physical therapeutics. Unfortunately weight resistance exercises are only mentioned and not discussed.

Diabetes Mellitus in Bergen 1925-1941: A Study of Morbidity, Mortality, Causes of Death and Complications. By Per Hanssen. Also published as Supplement, Acta medica scandinavica, 1946. Translated from Norwegian to English by Claude Lillingston, M.D. Paper. Pp. 179. Johan Grundt Tanum Forlag, Oslo, 1946.

This monograph is unique. It is an intimate study of diabetes in Bergen over a period of sixteen years. Interwoven in its pages are instructive comments on all phases of the disease and valuable references to the literature. The author is particularly well trained to prepare this review and analysis of diabetes because of his broad education at home and his association with Hagedorn in Denmark. The volume is a valuable contribution to the incidence of diabetes in a community particularly suited to such an investigation because of its stable population, but, more than this, brings out the fallacies inherent in estimations of diabetic morbidity from records of diabetic mortality. The author is obviously so well versed in statistical studies of diabetes that all who read his report cannot refrain from the hope that he will continue his interest in this disease and extend it by a more modern approach to the solution of diabetic morbidity by instituting a survey of the true incidence of diabetes in Bergen based on analyses of sugar in the urine and blood of a liberal section of Bergen's population. The results, when compared with the knowledge of diabetes in Bergen already acquired, would be of worldwide significance. What is needed today is the discovery of latent, early, mild diabetes, the victim of which is only too frequently the relatively impecunious diabetic citizen, because these are the very ones for whom treatment can accomplish the most.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

TETANUS AFTER HUMAN OR DOG BITES

To the Editor:—**There has been considerable discussion among our medical staff as to the administration of tetanus antitoxin in cases of wounds caused by human bites. Any institution for the mentally ill has quite a number of such cases. There seems to be little information in the literature or current textbooks available in our library concerning this subject. Is it advisable that tetanus antitoxin be administered to patients whose wounds are caused by bites inflicted by other patients?**

Daniel Haffron, M.D., Elgin, Ill.

To the Editor:—**I would appreciate information regarding the necessity for giving tetanus antitoxin following dog bites.**

Samuel B. Hughes, M.D., Wildwood, N. J.

ANSWER.—1. A review of the available literature and of the statistics of several hospitals which admit a not inconsiderable number of patients with tetanus indicates that tetanus from human bites does not occur. Consequently tetanus antitoxin is not needed in the care of human bites. In view of the high incidence of human bites among inmates of institutions for the mentally ill, it might be advisable to cover all problems related to tetanus by a program of active immunization with tetanus toxoid. Three doses of fluid tetanus toxoid (1 cc. at two week intervals) or two doses of alum precipitated tetanus toxoid (0.5 cc. at monthly intervals), supplemented by a small booster dose (0.1 cc. of fluid or alum precipitated tetanus toxoid) in the event of injuries, would cover all exigencies, including the hypothetical occurrence of tetanus from human bites.

2. The available evidence indicates that tetanus from dog bites does not occur. If the tissues are contaminated with dirt or other material considered likely to harbor spores of the bacillus of tetanus, a prophylactic dose of 10,000 units of tetanus antitoxin cannot be condemned. The average dog bite does not require antitetanic serum. Obviously there is no harm associated with the injection of a small booster dose of tetanus toxoid (0.1 cc. of either fluid or alum precipitated material) into a patient who has been immunized previously with the material. However, in most instances it is not required. Tetanus antitoxin, in contrast to tetanus toxoid, may induce serum sickness. The latter, because of sundry factors, might lead to the abandonment of rabies inoculations. Obviously, active immunization against rabies following the infliction of a dog bite is of more importance than protection against tetanus.

SLOW HEART RATE AFTER EXERCISE

To the Editor:—**What interpretation should be placed on the lack of rapid heart action after a period of exercise? To be specific: I have on several occasions observed that apparently healthy young men (U. S. Navy applicants) may show an initial pulse rate of 80 per minute, and after a standardized exercise test their pulse may be only 88 per minute whereas the average man's pulse would be 110 to 120 per minute. What conclusion should be drawn from prolonged rapid heart action following exercise? What conclusion should be drawn from drop in pulse rate and/or blood pressure following exercise?**

E. J. Sullivan Jr., Lieutenant (jg) M.C., U.S.N.R.

ANSWER.—The failure of the heart rate to be much elevated after excercise is in most instances in young people a favorable sign of physical fitness and athletic training. The same is true of the rapid reduction of pulse rate on resting during the first two minutes after exercise. The maintenance of prolonged rapid heart action after exercise can be the result of overstrain of an abnormal heart, but it is more commonly the result of poor physical condition or of nervousness. In rare cases heart block may be responsible for a drop in pulse rate immediately after exercise. In such cases electrocardiographic study should be made. However, in certain athletes the sudden development of sinoauricular block with the halving of the pulse rate or close to it can occur within a minute after some exercise, such as a hundred yard dash, and in such cases is a favorable and economical physiologic mechanism.

The effect of exercise on the blood pressure may be quite similar to the effect on heart rate, but these effects often are not parallel; if the heart is weak or a state of collapse is produced the blood pressure may fall abruptly.

POISONOUS MOLLUSKS

To the Editor:—**In The Journal, March 8, 1947 on page 708 under Medical News of Alaska I find a note regarding "Survey of Alaskan Clams." This note mentions Gonyaulax catenella in the clams found in southeastern Alaskan waters. The toxin from Gonyaulax is mentioned as causing paralytic poisoning, and it is noted that the federal Food and Drug Administration does not allow the sale of shellfish showing even a minimum amount of the toxin. May I ask for further information on this organism? Is it classed with the so-called plankton? Is it the same one which has caused trouble along the Oregon, California and Washington coasts at certain times of the year? How is the toxin determined?**

Captain (MC), U. S. Navy.

ANSWER.—A paralytic toxin has been found at certain times in mollusks, particularly clams and mussels, along the coast of California, Oregon, Washington, both the East and West coasts of Canada and the coast of Alaska. According to Sommer and others the primary source of this toxin along the West Coast of the United States is a plankton organism, the dinoflagellate Gonyaulax catenella, which is utilized as food by the mollusks. However, the presence of this organism has not always been demonstrated elsewhere in areas where toxic clams and mussels have occurred. Regardless of the primary source, the toxins found so far in poisoned mollusks have similar if not identical pharmacologic properties.

There is no known chemical test for the identification or the determination of the toxin, so that biologic assay is necessary. In brief, this assay is carried out as follows: One hundred Gm. of the fresh meats are finely ground, mixed with 100 cc. of tenth normal hydrochloric acid, brought rapidly to boiling and boiled for five minutes. After cooling, centrifuging and adjusting the p_H to 4 to 6 if necessary, 1 cc. of the supernatant liquid is injected intraperitoneally into each of three 20 Gm. mice. The symptoms and time of death are noted. A mouse unit has been defined as that amount of toxin which when contained in 1 cc. will kill a 20 Gm. mouse in ten to twenty minutes. Since there is a relationship between death time and potency of the toxin, it is possible to approximate the potency from the average death time of the mice.

The Food and Drug Administration has advised the industry to refrain from taking clams from beds where more than the minimum demonstrable amount of toxin (200 mouse units) is present.

ADIPOSIS DOLOROSA

To the Editor:—**Is there any treatment for adiposis dolorosa? My patient is a woman aged 30 with several children. Physical examination is not remarkable except for painful fatty deposits. The history reveals only pain, headache and periods of amenorrhea at times for several months. The basal metabolic rate is —9; chest films are normal. The blood shows a mild secondary anemia.** **Luther B. Lowe, M.D., Chattahoochee, Fla.**

ANSWER.—The pain in adiposis dolorosa sometimes disappears with loss of weight. It would therefore be well to put the patient on a weight reducing diet. As the patient has periods of amenorrhea and headache it would be desirable to have an x-ray of the sella turcica to rule out a pituitary tumor. She apparently has hypogonadism secondary to hypopituitarism and may therefore be given stimulation therapy with pituitary gonadotropin. If this is ineffective she may receive substitutional therapy with estrogenic substance.

VENTILATION OF HOMES

To the Editor:—**In planning the construction of an eight room, three story house the heating engineer suggests that an outside air duct to the hot air furnace is not good principle. The heating system plan is a gas furnace with forced hot air; this may be in conjunction with a Precipitron. Is it likely if the house is occupied by four to six people that the air will be freshened sufficiently from the opening of the door, which may happen twenty to thirty times in twenty-four hours? I realize that the circulation of the air through the house will keep it from becoming stuffy, but my query is directed to the healthful aspect and comparative oxygen content.**

M.D., Pennsylvania.

ANSWER.—In ordinary homes the spontaneous leakage of air through cracks and crevices and from the opening of doors is ample to maintain normal oxygen concentration and to keep the air fresh. It is desirable to ventilate kitchens and bathrooms by means or an exhaust fan in order to remove odors, excessive heat and moisture at the source.

Although an outside air duct is not necesssary on this score, it will be desirable to have one installed for cooling the building in the summer by the circulation of cool night air, without the necessity of keeping windows open all night. This "fresh" air pipe should be provided with a damper near the wall inlet and with a quadrant which can be locked shut in cold weather.

BAY RUM

To the Editor:—Can you give me a brief statement as to the harmful effects of drinking bay rum? Ernest Thompson, M.D., Monroe, Ga.

ANSWER.—Bay rum was originally made in the West Indies by distilling rum with the leaves of their native bay tree, Pimenta racemosa, which is not related to the bay berries of New England but belongs to the same family (Myrtaceae) as cloves and allspice. Bay rum is now prepared by dissolving 0.6 to 1 per cent of bay oil, the pungent aromatic volatile oil distilled from these leaves, the myrcia oil of the National Formulary, with smaller quantities of other aromatic oils, in diluted alcohol of 40 to 60 per cent. The compound spirit of myrcia, N. F. VIII, is typical. It contains myrcia oil 8 cc., orange oil 0.5 cc., pimenta oil 0.5 cc., alcohol 610 cc. and water to make 1,000 cc. Other formulas contain also the oils of clove, bergamot, lemon and rosemary, but the chief potent ingredients are the alcohol and the myrcia oil. This contains 50 to 65 per cent of phenols, including eugenol, and its pungent, irritative action is presumably due to these. The effects of bay rum would therefore correspond to those of its alcohol, perhaps somewhat stronger than "proof," with about 1 per cent of pungent volatile oil somewhat similar to clove oil. A single dose of 25 cc. of such a preparation, containing less than 0.25 cc. of the oil, would produce some gastric irritation but would probably not be harmful; continued use could conceivably cause chronic gastritis. A hundred cubic centimeters, corresponding to 1 cc. of the oil, could probably not be dangerous; 10 cc. of the oil could probably be fatal, but so could the alcohol in the corresponding amount (1,000 cc.) of bay rum. Bay rum hair tonics, however, usually contain varying amounts of cantharides, and this would produce priapism, hematuria and nephritis.

METHODS FOR DETERMINING SERUM PROTEINS

To the Editor:—I have a problem and would greatly appreciate your help. I am beginning to do protein and albumin determinations on blood serum, using a method described on pages 342 to 344 of the Laboratory Methods of the United States Army, edition 4, edited by James Stevens Simmons. This is apparently a modification of the Greenberg method using tyrosine as a standard and developing a blue color in both standard and unknown. The results have been to date too high for the total protein, at least as checked by another method. I have done this with the visual colorimeter but would prefer to plot a curve for use with the Cenco photelometer. However, using number 1 blue, number 2 green and number 3 red filters, I have not had a wide enough difference in the different readings to make really accurate estimations. Quite likely the use of another filter would correct this difficulty, and this is one of the things on which I would like advice. Also I would like to know whether, perhaps, the regular Greenberg procedure would be more satisfactory. If there are any other more recent methods which are not too complicated for a small laboratory and adaptable to the photoelectric colorimeter, I would be glad to be informed about them. Leon A. Alley, M.D., Middleboro, Mass.

ANSWER.—The method referred to is not included in the fifth edition of "Laboratory Methods of the United States Army," edited by James Stevens Simmons. Nor does it seem that this method using a tyrosine standard is easily adaptable to photoelectric colorimetry. It is suggested that a much better method is that described by G. R. Kingsley, "The Direct Biuret Method for the Determination of Serum Proteins as Applied to Photoelectric and Visual Colorimetry," *J. Lab. & Clin. Med.* **27**:840 (March) 1942. The author used the Klett-Summerson photoelectric colorimeter. The method has been adapted to the Coleman clinical spectrophotometer and can be used doubtless with the Cenco-Sheard-Sanford photelometer. A green filter transmitting light between 500 and 570 millimicrons with maximal transmission at 540 millimicrons is satisfactory. A calibration curve must be made, of course, for the particular instrument, for which some reliable quantitative method should be used for standardization.

DETERMINATION OF FERTILITY IN MEN

To the Editor:—What is the technic of a relatively simple method for the determination of fertility in men by office methods? I have a microscope, counting chamber and slides.

James K. Gray, M.D., Thurmont, Md.

ANSWER.—For the physician using the equipment listed, the tests most essential are the determination of the number of sperm per cubic centimeter, the percentage of abnormal forms present and the motility of the sperm.

The number of sperm in 1 cubic centimeter is obtained by filling a white blood pipet to the 0.5 mesh with seminal fluid. A solution of 5 per cent sodium bicarbonate and 1 per cent solution of formaldehyde is added as a diluting fluid to the 11 mark on the pipet.

Using a white cell counting chamber, count the number of sperm in 1 square millimeter. Multiplying this number by 10, then by 1,000 and then by 20 will give the number of sperm per cubic centimeter.

To determine the number of abnormal forms, smear the seminal fluid on a slide, slightly heat to fix and stain with gram stain.

The motility can be observed by examining a fresh drop of seminal fluid under the microscope.

Normally 1 cc. of ejaculate should have a minimum of 20 million sperm per cubic centimeter.

The maximum number of abnormal forms should not exceed 24 per cent. Lack of motility does not always indicate sterility.

MENSTRUATION DURING PREGNANCY

To the Editor:—Please explain why women will menstruate regularly while pregnant and deliver full term babies? I have witnessed several cases but was unable to explain the mechanism.

George Vash, M.D., Chester, Mass.

ANSWER.—In the De Lee-Greenhill Principles and Practice of Obstetrics, page 117, appears the following statement concerning this question: "Menstruation may continue after conception. It is not rare to learn of a woman having one or two periods after she is pregnant, but usually the amount of blood is small and the character of the flow otherwise abnormal. Bleeding after conception is the rule in macacus monkeys, and Hartmann calls it the "placental sign." A true menstrual flow is possible, because the two deciduas do not fuse until the fifth month. Instances in which menstruation persisted during the nine months have been reported. The ovary sometimes continues to function during gestation, as proved by instances of superfetation, of menstrual molimina and autopsies on pregnant women. Rather than a menstruation a bloody discharge is more likely due to abortion, cervical erosions, uterine polyp, fibroids, rupture of a varix at any point in the cervical, vaginal or vulvar canal, extrauterine pregnancy and diseases of the ovum, such as placenta previa."

DOES LIVER EXTRACT OR VITAMIN A DAMAGE THE LIVER?

To the Editor:—Is there any danger of inducing liver damage by repeated injections of liver extract or by the ingestion of large doses of vitamin A over a long period of time? M.D., New York.

ANSWER.—There is no good evidence that either of these substances damages the liver in therapeutic doses even when given over a long period. There is one possible exception, however, namely the presence of hypersensitivity to liver extract. Under such circumstances it is possible that liver damage may be produced.

CLEANING SURGICAL INSTRUMENTS

To the Editor:—I am wondering what suggestions you may have for the cleaning of surgical instruments. I have been using the patented cleaner "Hemosol" but would welcome a more efficient, practical cleanser. D. E. Rolf, M.D., Cleveland.

ANSWER.—The most effective way of cleaning instruments seems to be by using a brush with soap and water.

VAGINAL DOUCHING

To the Editor:—In the Feb. 15, 1947 issue of The Journal page 508, there was a note on vaginal douches. A previous query said "for those who insist douches should be used not oftener than once or twice a week at most." This statement I wish to agree with since studying the physiology of the vagina before, during and after douching with certain chemicals in tap water and also after no douching at all. This work has been going on at the Jefferson Davis Hospital department of gynecology for the past thirteen years. Hydrogen ion concentration (pH) of the normal vagina was found to be 4.36; after vinegar douches it was 4.49, or 1,130 times less acid than normal, after water douches 6.0, or 5,400 times less acid than normal, after veraseptol douches 5.59, or 4,258 times less acid than normal, after soda douches 6.61, or 4,345 times less acid than normal, after saponated solution of cresol douches 5.62, or 4,130 times less acid than normal, after glucose douches 4.57, or 1,678 times less acid than normal, after sodium chloride douches 7.45, or 4,367 times less acid than normal, after zonite douches 6.72, or 4,351 times less acid than normal, and after alum douches 4.20, or 1,940 times more acid than normal. After no douches and no infection of the vagina, the pH was found to be 4.49, or the same as if the patient had been taking vinegar douches. In infections of the vagina, douches are necessary twice a day in order to wash out the nonphysiologic and irritating vaginal secretion. Without infection, a douche is not necessary except as a cleansing douche after coitus.

Karl John Karnaky, M.D., Houston, Texas.